strictly prohibited.

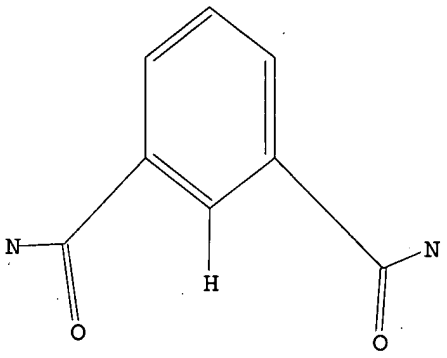
FILE COVERS 1907 - 14 Dec 2004 VOL 141 ISS 25
FILE LAST UPDATED: 13 Dec 2004 (20041213/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=>
Uploading C:\STNEXP4\QUERIES\918.str

L1   STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS
L1   STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
   REGIstRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

FULL SEARCH INITIATED 16:31:27 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 65525 TO ITERATE

100.0% PROCESSED   65525 ITERATIONS   11673 ANSWERS
SEARCH TIME: 00.00.01

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L3   7406 L2

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       595253 HETERO?
L4   540 L3 AND HETERO?

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L5   376 L4 AND PY<2001

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L6 140 L5 AND (O OR S OR NH)

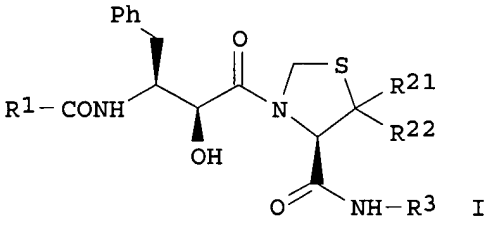
=> s l6 and isophtha?
34079 ISOPHTHA?
L7 31 L6 AND ISOPHTHA?

=> d 1-10 ibib abs hitstr

L7 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:294981 CAPLUS
DOCUMENT NUMBER: 134:311436
TITLE: Methods of preparing novel dipeptides with HIV protease inhibitory activity
INVENTOR(S): Kato, Ryohei; Mimoto, Tsutomu; Fukazawa, Tominaga; Morohashi, Naoko; Kiso, Yoshiaki
PATENT ASSIGNEE(S): Japan Energy Corporation, Japan
SOURCE: U.S., 25 pp., Cont.-in-part of U.S. 5,932,550.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
US 6222043	B1	20010424	US 1999-228009		19990108	
US 5932550	A	19990803	US 1996-669757		19960626	<--
ZA 9605472	A	19970127	ZA 1996-5472		19960627	<--
US 5962640	A	19991005	US 1998-137608		19980821	<--
PRIORITY APPLN. INFO.:			JP 1995-188151	A	19950630	
			JP 1996-140678	A	19960510	
			US 1996-669757	A2	19960626	

OTHER SOURCE(S): CASREACT 134:311436; MARPAT 134:311436
GI



I

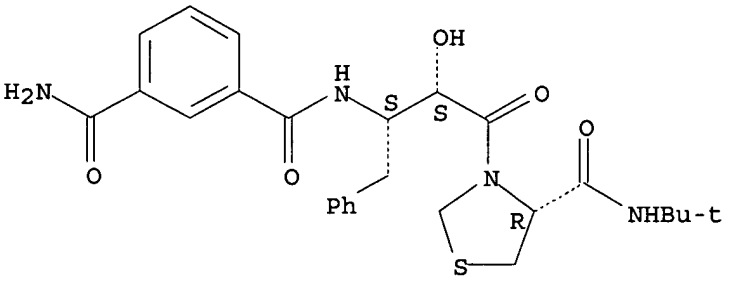
AB The present invention provides synthetic methodol. for producing novel dipeptides I [R1 represents a 5- or 6-membered monocyclic hydrocarbon or **heterocyclic** group having up to 3 substituents; R21 and R22 represent a hydrogen atom or a linear or branched aliphatic hydrocarbon group having 1-6 carbon atoms; R3 represents a linear or branched aliphatic hydrocarbon group having 1-6 carbon atoms or a monovalent group comprising an aromatic monocyclic hydrocarbon group which may be halo-substituted and has 12 or fewer total carbon atoms] and their pharmaceutically acceptable salts which exhibit excellent HIV protease inhibitory activity and excellent bioavailability from digestive tracts. Thus, (R)-N-tert-butyl-3-[(2S,3S)-2-hydroxy-3-(benzoylamino)-4-phenylbutanoyl]-1,3-thiazolidine-4-carboxamide, prepared by amino group acylation with benzoic acid using EDC.HCl and HOBT in DMF for 14 h at room temperature, showed 52% HIV protease inhibitory activity at a concentration of 5 μM.

IT **186537-86-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of dipeptides with HIV protease inhibitory activity)

RN 186537-86-0 CAPLUS
CN 1,3-Benzenedicarboxamide, N-[(1S,2S)-3-[(4R)-4-[[(1,1-dimethylethyl)amino]carbonyl]-3-thiazolidinyl]-2-hydroxy-3-oxo-1-

(phenylmethyl)propyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

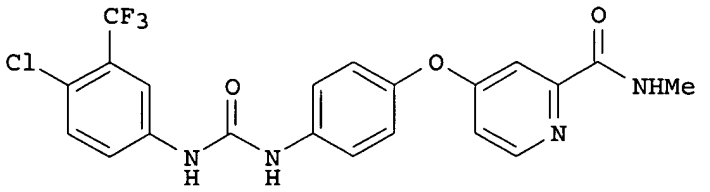


REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:493376 CAPLUS
DOCUMENT NUMBER: 133:120155
TITLE: Preparation of ω-carboxy aryl substituted diphenyl ureas as p38 kinase inhibitors
INVENTOR(S): Riedl, Bernd; Dumas, Jacques; Khire, Uday; Lowinger, Timothy B.; Scott, William J.; Smith, Roger A.; Wood, Jill E.; Monahan, Mary-Katherine; Natero, Reina; Renick, Joel; Sibley, Robert N.
PATENT ASSIGNEE(S): Bayer Corporation, USA
SOURCE: PCT Int. Appl., 148 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2000041698	A1	20000720	WO 2000-US768		20000113 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
CA 2359244	AA	20000720	CA 2000-2359244		20000113 <--
EP 1158985	A1	20011205	EP 2000-905597		20000113
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
US 2003139605	A1	20030724	US 2002-71248		20020211
US 2003105091	A1	20030605	US 2002-86417		20020304
PRIORITY APPLN. INFO.:			US 1999-115878P	P	19990113
			US 1999-257265	A2	19990225
			US 1999-425229	A2	19991022
			US 1999-115877P	P	19990113
			US 1999-257266	B2	19990225
			US 1999-425228	B1	19991022
			WO 2000-US768	W	20000113
			US 2001-948915	A1	20010910

OTHER SOURCE(S): MARPAT 133:120155
GI



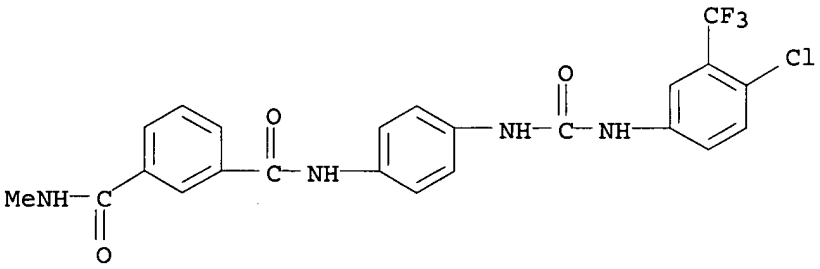
II

AB The title compds. ADB [I; D = NHCONH; A = substituted moiety of up to 40 carbon atoms of the formula L(ML1)q (wherein L = 5-6 membered cyclic structure; L1 = substituted cyclic moiety having at least 5 members; M = bridging group having al least one atom; q = 1-3; each of L and L1 contains 0-4 members of the group consisting of N, **O** and **S**); B = (un)substituted up to tricyclic aryl or **heteroaryl** moiety of up to 30 carbon atoms with at least one 6-member cyclic structure bound directly to D containing 0-4 members of the group consisting of N, **O** and **S**], useful in treating p38 mediated diseases, were prepared E.g., a multi-step synthesis of the urea II which showed IC50 of 1-10 μM against p38, was given. Compds. I are effective at 0.01-200 mg/kg/day (oral administration).

IT **284461-90-1P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of ω-carboxy aryl substituted di-Ph ureas as p38 kinase inhibitors)

RN 284461-90-1 CAPLUS

CN 1,3-Benzenedicarboxamide, N-[4-[[[[4-chloro-3-(trifluoromethyl)phenyl]amino]carbonyl]amino]phenyl]-N'-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:260225 CAPLUS
DOCUMENT NUMBER: 132:294010
TITLE: Preparation of diaminopropionic acid derivatives as intracellular adhesion molecule-1 (ICAM-1) binding inhibitors
INVENTOR(S): Fotouhi, Nader; Gillespie, Paul; Guthrie, Robert William; Pietranico-Cole, Sherrie Lynn; Yun, Weiya
PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.
SOURCE: PCT Int. Appl., 259 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000021920	A1	20000420	WO 1999-EP7620	19991012 <--

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,

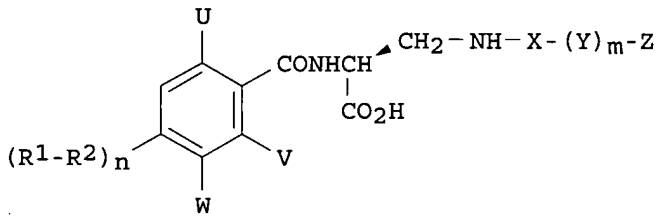
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6331640	B1	20011218	US 1999-407534	19990929	
CA 2344058	AA	20000420	CA 1999-2344058	19991012	<--
BR 9914602	A	20010703	BR 1999-14602	19991012	
EP 1121342	A1	20010808	EP 1999-953772	19991012	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
TR 200101038	T2	20010921	TR 2001-200101038	19991012	
JP 2002527416	T2	20020827	JP 2000-575829	19991012	
AU 766468	B2	20031016	AU 2000-10349	19991012	
ZA 2001002608	A	20020930	ZA 2001-2608	20010329	
US 2002052512	A1	20020502	US 2001-879700	20010612	
US 2004006236	A1	20040108	US 2003-349289	20030122	
US 6803384	B2	20041012			

PRIORITY APPLN. INFO.:	US 1998-104120P	P 19981013
	US 1999-407534	A3 19990929
	WO 1999-EP7620	W 19991012
	US 2001-879700	B3 20010612

OTHER SOURCE(S): MARPAT 132:294010

GI



I

AB Diaminopropionic acid derivs. I [R1 = substituted 1-naphthyl, 4-indolyl, 4-benzimidazolyl, 4-benzodiazolyl, 4-benzotriazolyl, or phenyl; R2 = CHR3NHCO (R3 = H, carboxy, alkyl), CH2CH2CO, 1,2-cyclopropanediylcarbonyl, OCH2CO, CH:CHCHR3, CH2CH2CH(OH), CONHCHR3, or CH2NH-5,1-tetrazolediyl; U, V, W = H, halo, alkyl provided that U and V are not both hydrogen; X = CO, phenylalkylene, sulfonyl; Y = alkylene which may be substituted by amino or cycloalkyl, alkenylene, alkylenethio; Z = H, alkylthio, CO2H, CONH2, 1-adamantyl, diphenylmethyl, 3-[[(5-chloro-2-pyridinyl)amino]carbonyl]-2-pyrazinyl, hydroxy, phenylmethoxy, 2-chloro-4-[[[(3-hydroxyphenyl)methyl]amino]carbonyl]phenyl, [(2,6-dichlorophenyl)methoxy], Ph, (un)substituted cycloalkyl or aryl or fused ring system which may contain 0-3 **heteroatoms**; m, n = 0, 1] or their pharmaceutically acceptable salts or esters were prepared and are useful for treating rheumatoid arthritis, psoriasis, multiple sclerosis, Crohn's disease, ulcerative colitis, atherosclerosis, restenosis, pancreatitis, transplant rejection, delayed graft function and diseases of ischemia reperfusion injury, including acute myocardial infarction and stroke. Thus, N-[2-chloro-4-[[[(3-hydroxyphenyl)methyl]amino]carbonyl]benzoyl]-3-(3-methoxybenzoylamino)-L-alanine was prepared by the solid-phase method and showed IC50 = 1.2 nM in the LFA-1 (lymphocyte function-associated antigen-1)/ICAM-1 protein-protein assay.

IT **264274-87-5P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of diaminopropionic acid derivs. as intracellular adhesion mol.-1 (ICAM-1) binding inhibitors)

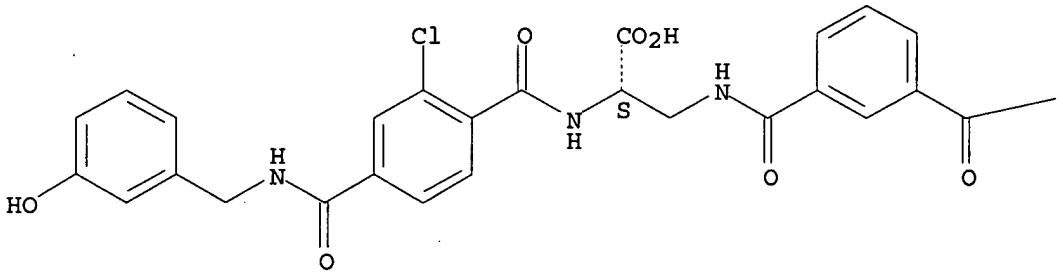
RN 264274-87-5 CAPLUS

CN L-Alanine, 3-[[3-(aminocarbonyl)benzoyl]amino]-N-[2-chloro-4-[[[(3-

hydroxyphenyl)methyl]amino]carbonyl]benzoyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

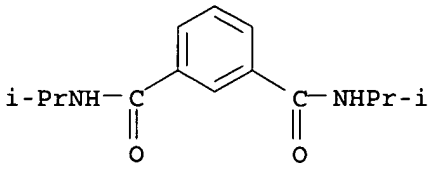


PAGE 1-B

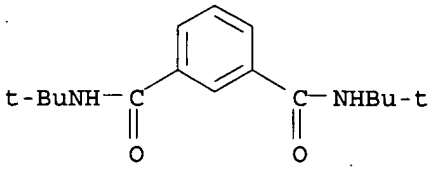
—NH_2

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

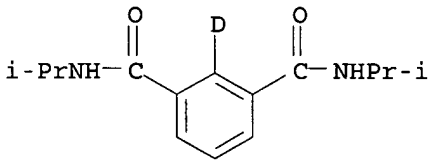
L7 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:561935 CAPLUS
DOCUMENT NUMBER: 131:286438
TITLE: Synthesis of benzisochalcogenol and -azole derivatives via ortho metalation of **isophthalamides**
AUTHOR(S): Kersting, Berthold; De Lion, Michael
CORPORATE SOURCE: Institut Anorganische Analytische Chemie, Univ. Freiburg, Freiburg/Br., D-79104, Germany
SOURCE: Zeitschrift fuer Naturforschung, B: Chemical Sciences (**1999**), 54(8), 1042-1047
CODEN: ZNBSEN; ISSN: 0932-0776
PUBLISHER: Verlag der Zeitschrift fuer Naturforschung
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:286438
AB The syntheses of benzo-fused isochalcogenazole derivs. via ortho-lithiation of **isophthalamides** is reported. N,N'-dialkylisophthalamides, C6H4-1,3-(CONHR)2, (R = CHMe2, CMe3) are readily ortho-metalated by 3.3 equivalent BuLi/TMEDA. The organolithium compds. react with **S**, Se, or Te to give 2-chalcogenolisophthalamides, 2-HXC6H4-1,3-(CONHR)2 (X = **S**, Se, Te). Oxidation of the chalcogenols affords dichalcogenides under acidic and benzisochalcogenazoles under basic conditions, resp. The formation of the 5-membered **heterocycles** proceeds by disproportionation of the dichalcogenides. Oxidation of the benzisothiazoles by H2O2 gives access to substituted sulfin- and sulfonamides.
IT **15088-33-2P 82292-40-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of benzisochalcogenols and -azoles via ortho metalation of **isophthalamides**)
RN 15088-33-2 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



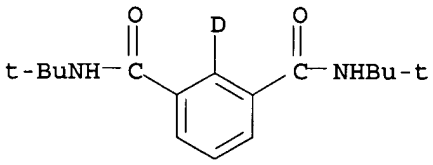
RN 82292-40-8 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IT **246230-40-0P 246230-41-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of benzisochalcogenols and -azoles via ortho metalation of **isophthalamides**)
RN 246230-40-0 CAPLUS
CN 1,3-Benzene-2-d-dicarboxamide, N,N'-bis(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 246230-41-1 CAPLUS
CN 1,3-Benzene-2-d-dicarboxamide, N,N'-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

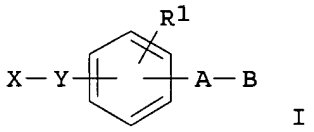
L7 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:250700 CAPLUS
DOCUMENT NUMBER: 128:295059
TITLE: Preparation of pyridyl- and naphthyridylalkoxybenzoyl-α-(phenylsulfonylamino)-β-alanine derivatives and analogs for inhibiting osteoclast-mediated bone resorption
INVENTOR(S): Hartman, George D.; Duggan, Mark E.; Hoffman, William F.; Ihle, Nathan C.
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: U.S., 57 pp., Cont.-in-part of U.S. Ser. No. 250,218, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

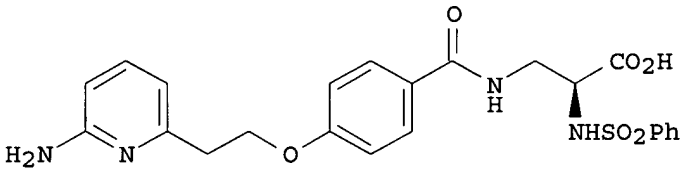
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5741796	A	19980421	US 1996-714097	19960926 <--
WO 9532710	A1	19951207	WO 1995-US5938	19950512 <--
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5929120	A	19990727	US 1998-15982	19980130 <--

PRIORITY APPLN. INFO.:	US 1994-250218	B2	19940527
	WO 1995-US5938	W	19950512
	US 1996-714097	A3	19960926

OTHER SOURCE(S): MARPAT 128:295059
GI



I



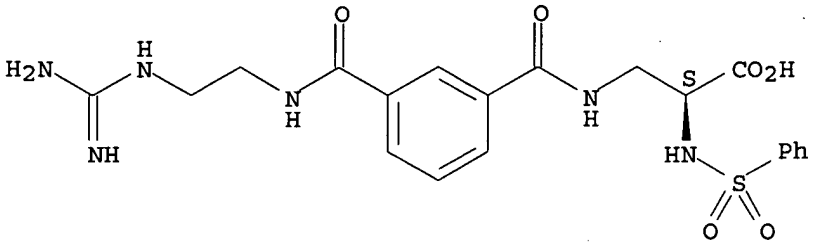
II

AB Compds. of structure I [X = various amino, amidino, guanidino, and N-**heterocyclic** groups; Y = alkylene, alkynylene, alkenylene, etc.; B = alkylene with optional amide moiety in chain; R1 = H, alkoxyalkyl, alkoxycarbonylalkyl, (di)(alkyl)aminoalkyl, aralkyl; R6, R7 = H, (di)alkylaminoalkyl, alkoxycarbonylaminoalkyl, alkylsulfonylaminoalkyl, alkylcarbonylaminoalkyl; R12 = OH, alkoxy, dialkylaminocarbonylmethoxy, aryldialkylaminocarbonylmethoxy; with provisos], are described which inhibit osteoclast-mediated bone resorption. Specifically, the compds. are useful for treating mammals suffering from a bone condition caused or mediated by increased bone resorption, who are in need of such therapy. The compds. may be administered in oral dosage forms such as tablets, capsules, e.g. sustained release capsules, powders, granules, and suspensions. Syntheses of approx. 50 compds. in 37 synthetic examples are described. Thus, amidation of Me 4-[2-(4-aminopyridin-6-yl)ethoxy]benzoic acid (preparation given) with (R)-H2NCH2CH(NHSO2Ph)CO2CMe3.HCl (preparation given) using EDC, N-hydroxybenzotriazole (HOBt), and N-methylmorpholine in DMF, followed by deprotection with CF3CO2H gave desired compound II. In EIB and OCFORM assays, prepared compds. I had values ranging 0.5-500 nM and 1-1000 nM, resp.

IT **174665-24-8P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of pyridyl- and naphthyridylalkoxybenzoyl β-alanine derivs. and analogs as bone resorption inhibitors)

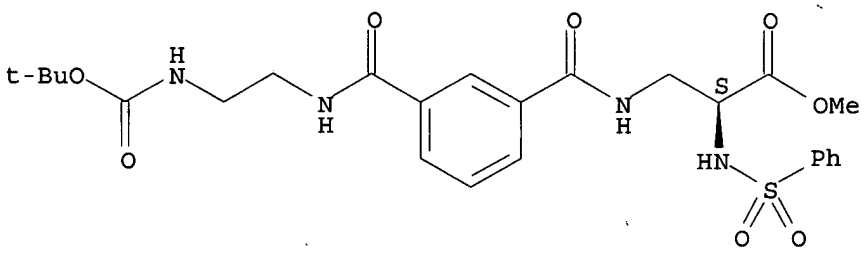
RN 174665-24-8 CAPLUS
CN L-Alanine, 3-[[3-[[[2-[(aminoiminomethyl)amino]ethyl]amino]carbonyl]benzoyl]amino]-N-(phenylsulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **174665-23-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of pyridyl- and naphthyridylalkoxybenzoyl β-alanine derivs. and analogs as bone resorption inhibitors)
RN 174665-23-7 CAPLUS
CN L-Alanine, 3-[[3-[[[2-[[(1,1-dimethylethoxy)carbonyl]amino]ethyl]amino]carbonyl]benzoyl]amino]-N-(phenylsulfonyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:210660 CAPLUS
DOCUMENT NUMBER: 128:283305
TITLE: Polyazole precursor compositions and electronic parts using the same and manufacture thereof, with low dielectric constant and film-forming temperature and good moisture resistance and environmental stability
INVENTOR(S): Kawamonzen, Yoshihiro
PATENT ASSIGNEE(S): Toshiba Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10087989	A2	19980407	JP 1996-245297	19960917 <--
JP 3405645	B2	20030512		

PRIORITY APPLN. INFO.: JP 1996-245297 19960917

AB The title compns. are formed by compounding 1 mol polyazole precursor repeating unit -CONHX(R1)(R2)NHCOY- and -ZCONHNHCO- [X = tetravalent organic group; Y = divalent organic group; R1, R2 = OH,SH, (un)substituted amino] with ≥0.1 mol curing accelerator(**s**) chosen from (A) (un)substituted N-containing **heterocyclic** compds. having pKa in water 0-8, (B) amino acid compds. and N-acylamino acid compds., and (C) aromatic hydrocarbon compds. having ≥2 substituents chosen from carboxy, aminocarbonyl, sulfo, aminosulfonyl, acyl, carboxyalkyl, sulfoalkyl, OH, SH, amino, and aminoalkyl. **Isophthalic** acid-3,3'-dihydroxy-4,4'-diaminobiphenyl copolymer varnish in AcNMe2 was

cured with benzimidazole with 100% cyclization.

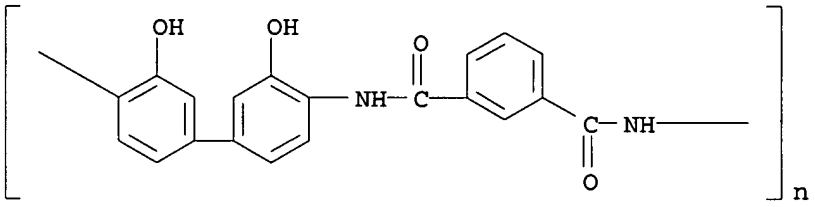
IT **27026-22-8P 113339-21-2P 152243-18-0P 205751-04-8P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyazole precursor compns. for electronic parts, with low dielec. constant and film-forming temperature and good moisture resistance and environmental stability)

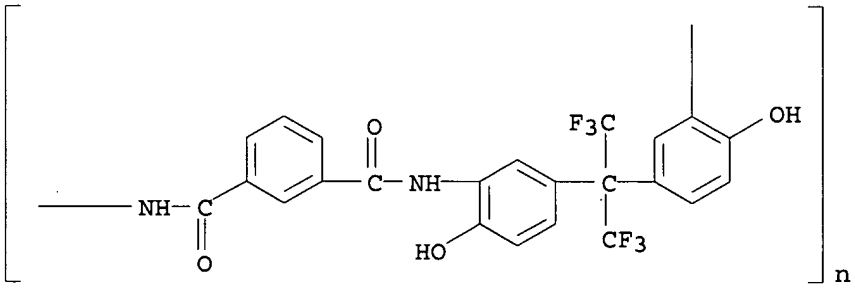
RN 27026-22-8 CAPLUS

CN Poly[iminocarbonyl-1,3-phenylenecarbonylimino(3,3'-dihydroxy[1,1'-biphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)



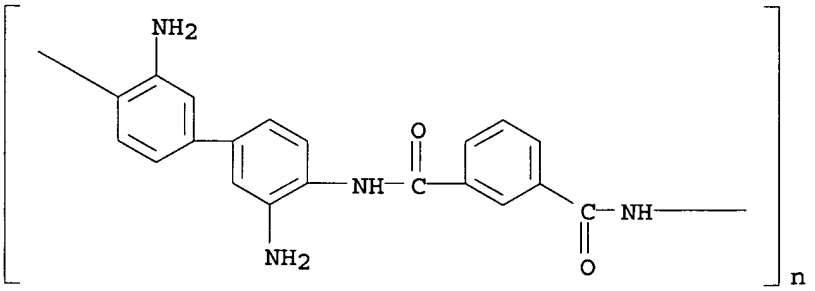
RN 113339-21-2 CAPLUS

CN Poly[iminocarbonyl-1,3-phenylenecarbonylimino(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (9CI) (CA INDEX NAME)



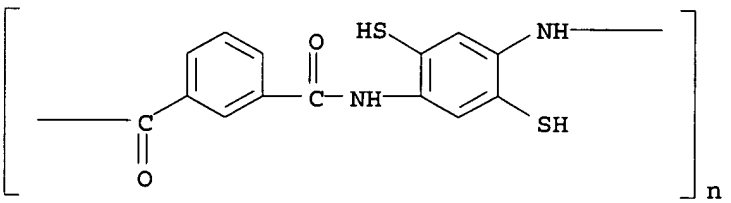
RN 152243-18-0 CAPLUS

CN Poly[iminocarbonyl-1,3-phenylenecarbonylimino(3,3'-diamino[1,1'-biphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)



RN 205751-04-8 CAPLUS

CN Poly[imino(2,5-dimercapto-1,4-phenylene)iminocarbonyl-1,3-phenylenecarbonyl] (9CI) (CA INDEX NAME)



L7 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:53357 CAPLUS
DOCUMENT NUMBER: 128:128345
TITLE: Poly(hydrazide-ester)s and poly(1,3,4-oxadiazole-ester)s containing pendent phenoxy groups
AUTHOR(S): Hamciuc, Elena; Hamciuc, Corneliu; Bruma, Maria; Stoleriu, Aurel; Schulz, Burkhard
CORPORATE SOURCE: Institute of Macromolecular Chemistry, Iasi, Rom.
SOURCE: High Performance Polymers (**1997**), 9(4), 429-436
CODEN: HPPOEX; ISSN: 0954-0083
PUBLISHER: Institute of Physics Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English

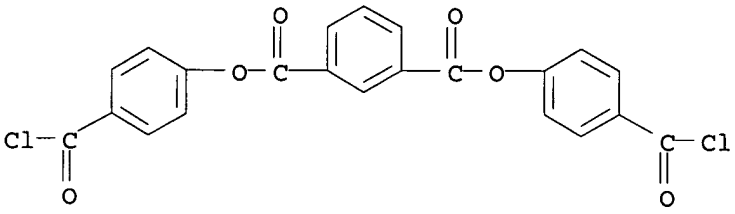
AB Aromatic poly(hydrazide-ester)s were synthesized by solution polycondensation of two diacid dichlorides containing preformed ester groups, with phenoxyterephthaloyl dihydrazide or with a mixture of phenoxyterephthaloyl dihydrazide and terephthaloyl- or **isophthaloyl**-dihydrazide in N-methyl-2-pyrrolidinone [NMP] under rigorously anhydrous conditions. Thermal cyclization of the poly(hydrazide-ester)s gave the corresponding poly(1,3,4-oxadiazole-ester)s containing pendant phenoxy groups. The polymers were characterized by viscometry, solubility measurements, IR spectroscopy, differential scanning calorimetry and thermogravimetric anal. All poly(hydrazide ester)s show good solubility in polar amide solvents such as NMP, DMF, or DMAc and the polymers containing a large number of phenoxy groups gave transparent flexible films when cast from NMP solns. Poly(1,3,4-oxadiazole ester)s having pendant phenoxy groups showed high thermal stability, with decomposition temperature of 360-400°, and no glass transition below 330°.

IT **201681-09-6P 201681-10-9P 201681-17-6P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of soluble and high-temperature stable poly(hydrazide-ester)s and poly(oxadiazole-ester)s containing pendant phenoxy groups)

RN 201681-09-6 CAPLUS
CN 1,3-Benzenedicarboxylic acid, bis[4-(chlorocarbonyl)phenyl] ester, polymer with 1,3-benzenedicarboxylic acid dihydrazide (9CI) (CA INDEX NAME)

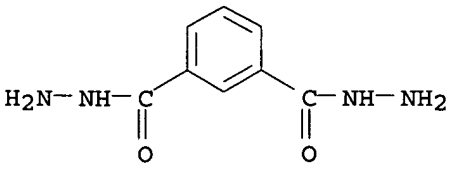
CM 1

CRN 96123-43-2
CMF C22 H12 Cl2 O6



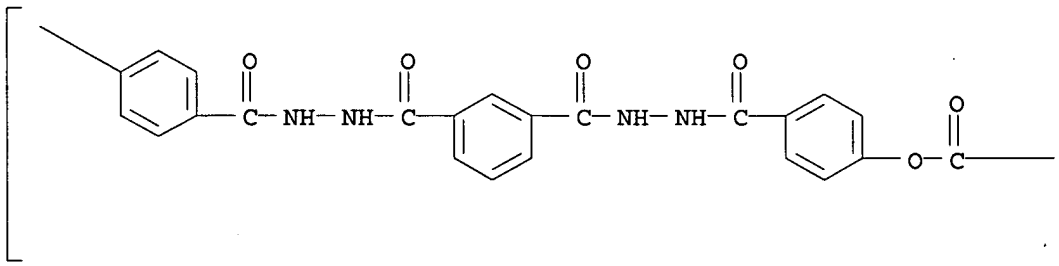
CM 2

CRN 2760-98-7
CMF C8 H10 N4 O2

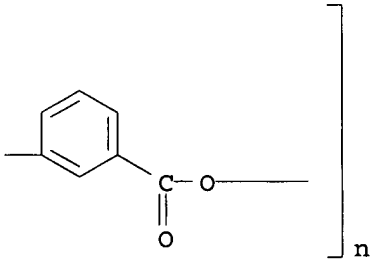


RN 201681-10-9 CAPLUS
CN Poly(oxycarbonyl-1,3-phenylenecarbonyloxy-1,4-phenylenecarbonylhydrazocarbonyl-1,3-phenylenecarbonylhydrazocarbonyl-1,4-phenylene) (9CI) (CA INDEX NAME)

PAGE 1-A



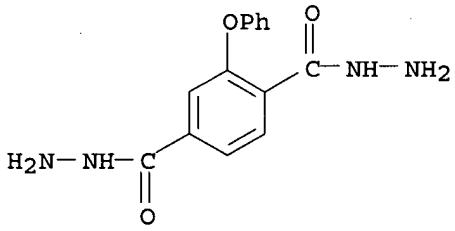
PAGE 1-B



RN 201681-17-6 CAPLUS
CN 1,3-Benzenedicarboxylic acid, bis[4-(chlorocarbonyl)phenyl] ester, polymer with 1,3-benzenedicarboxylic acid dihydrazide and 2-phenoxy-1,4-benzenedicarboxylic acid dihydrazide (9CI) (CA INDEX NAME)

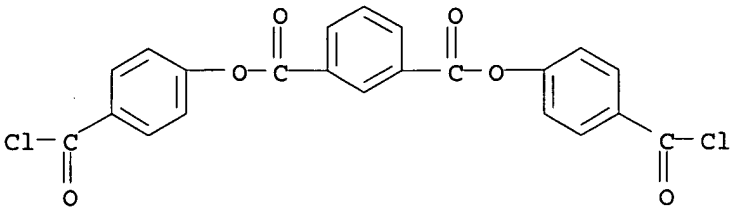
CM 1

CRN 175552-49-5
CMF C14 H14 N4 O3



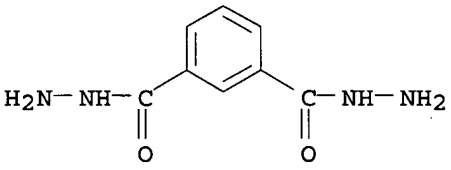
CM 2

CRN 96123-43-2
CMF C22 H12 Cl2 O6

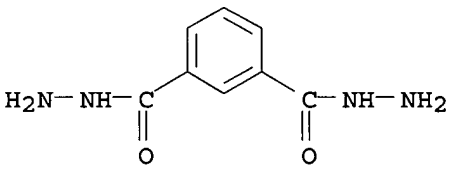


CM 3

CRN 2760-98-7
CMF C8 H10 N4 O2



IT **2760-98-7, Isophthaloyl** dihydrazide
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of soluble and high-temperature stable poly(hydrazide-ester)s and poly(oxadiazole-ester)s containing pendant phenoxy groups)
RN 2760-98-7 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

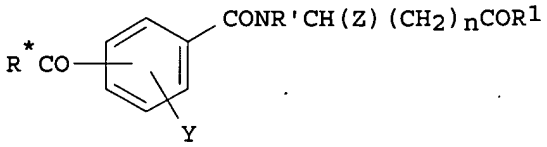
L7 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:520972 CAPLUS
DOCUMENT NUMBER: 125:158622
TITLE: Amino acid derivative fibrinogen receptor antagonists and their preparation
INVENTOR(S): Ali, Fadia El-Fehail
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9619223	A1	19960627	WO 1995-US16963	19951222 <--
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 796098	A1	19970924	EP 1995-944260	19951222 <--
R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
JP 10511359	T2	19981104	JP 1995-520041	19951222 <--
US 6037343	A	20000314	US 1995-875356	19951222 <--

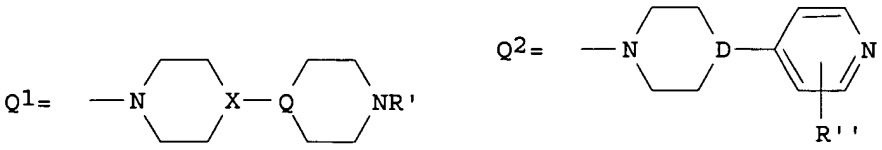
PRIORITY APPLN. INFO.: US 1994-363162 A 19941222
WO 1995-US16963 W 19951222

OTHER SOURCE(S): MARPAT 125:158622

GI



I

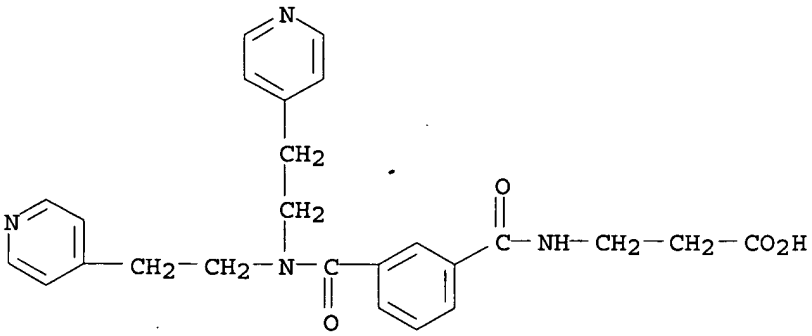


AB Compds. I [R* = Q1, Q2, N(R3)(3'); R1 = OR', N(R')2; R' = H, C1-6 alkyl; R'' = H, C1-6 alkyl, N(R')2; X, Q = CH, N (X and Q are not simultaneously N); D = CH, N (when D is N, R'' is N(R')2); Y = H, C1-6 alkyl, halo, CF3, etc.; Z = H, C1-6 alkyl, C2-6 alkenyl, C2-6 alkynyl, aryl, **heteroaryl**, etc.; R3, R3' = (CH2)**s**-piperidine, (CH2)**s**-piperazine, (CH2)**s**-2-pyridine, (CH2)**s**-3-pyridine, (CH2)**s**-4-pyridine; **s** = 1-4; n = 0-3] and pharmaceutically acceptable salts thereof are provided which are effective for inhibiting platelet aggregation, as are pharmaceutical compns. for effecting such activity and a method for inhibiting platelet aggregation. Preparation of e.g. N-(4,4'-bipiperidin-1-yl)**isophthalylglycine** is described. Compds. were tested in a GPIIb-IIIa fibrinogen receptor competitive binding assay.

IT **180304-72-7P 180304-73-8P 180304-77-2P 180304-81-8P 180304-83-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid derivative fibrinogen receptor antagonists, preparation, and antiplatelet activity)

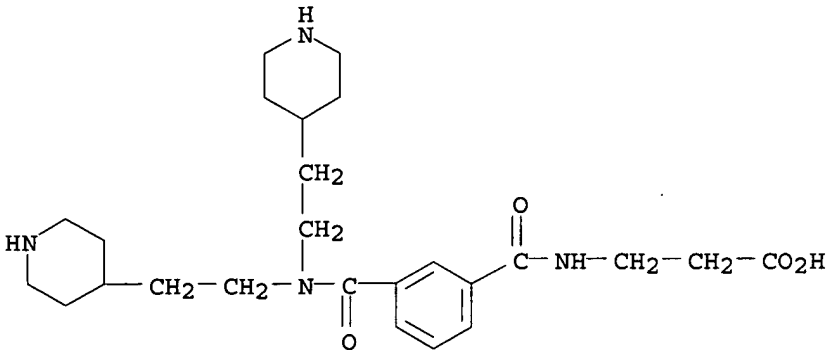
RN 180304-72-7 CAPLUS

CN β-Alanine, N-[3-[[bis[2-(4-pyridinyl)ethyl]amino]carbonyl]benzoyl]- (9CI) (CA INDEX NAME)

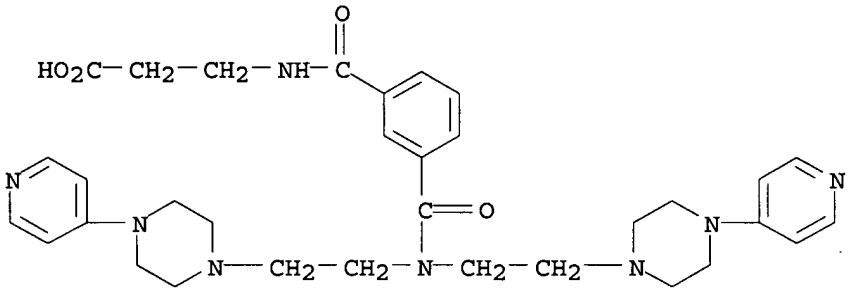


RN 180304-73-8 CAPLUS

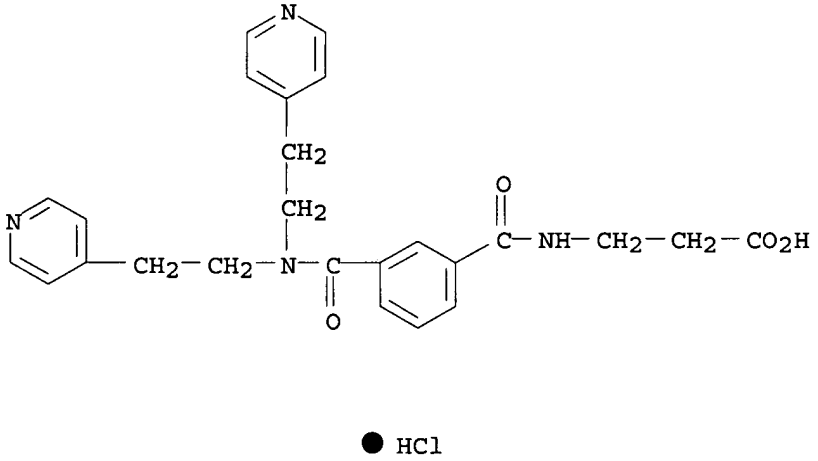
CN β-Alanine, N-[3-[[bis[2-(4-piperidinyl)ethyl]amino]carbonyl]benzoyl]- (9CI) (CA INDEX NAME)



RN 180304-77-2 CAPLUS
CN β-Alanine, N-[3-[[bis[2-[4-(4-pyridinyl)-1-piperazinyl]ethyl]amino]carbonyl]benzoyl]- (9CI) (CA INDEX NAME)

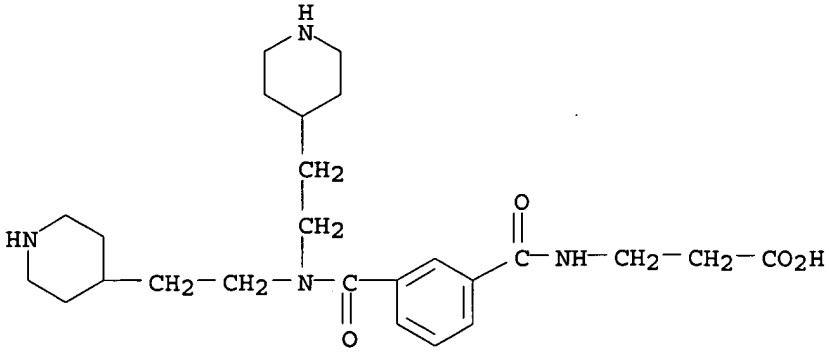


RN 180304-81-8 CAPLUS
CN β-Alanine, N-[3-[[bis[2-(4-pyridinyl)ethyl]amino]carbonyl]benzoyl]-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

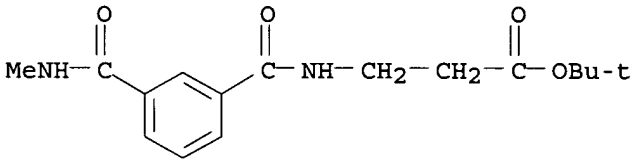
RN 180304-83-0 CAPLUS
CN β-Alanine, N-[3-[[bis[2-(4-piperidinyl)ethyl]amino]carbonyl]benzoyl]-, monohydrochloride (9CI) (CA INDEX NAME)



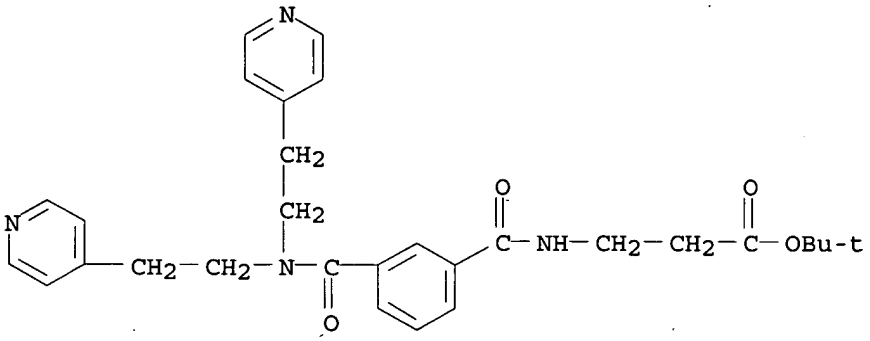
● HCl

IT **180304-79-4P 180304-82-9P 180304-84-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction; amino acid derivative fibrinogen receptor antagonists, preparation, and antiplatelet activity)

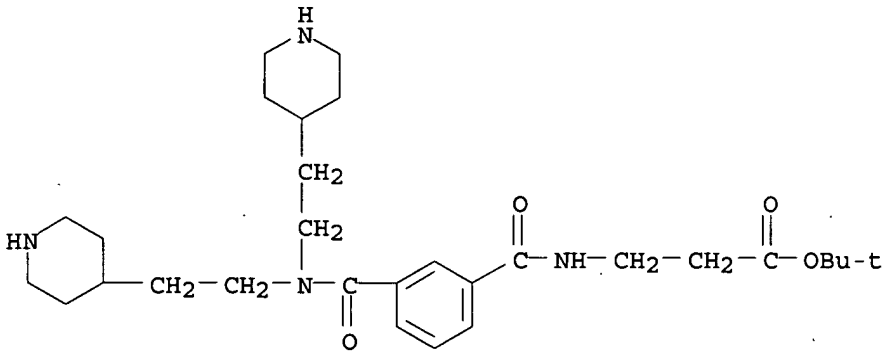
RN 180304-79-4 CAPLUS
CN β-Alanine, N-[3-[(methylamino)carbonyl]benzoyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 180304-82-9 CAPLUS
CN β-Alanine, N-[3-[[bis[2-(4-pyridinyl)ethyl]amino]carbonyl]benzoyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



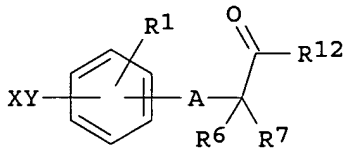
RN 180304-84-1 CAPLUS
CN β-Alanine, N-[3-[[bis[2-(4-piperidinyl)ethyl]amino]carbonyl]benzoyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



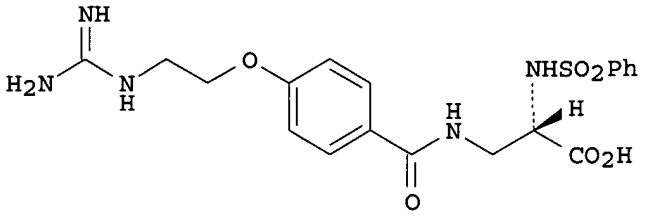
L7 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:181547 CAPLUS
DOCUMENT NUMBER: 124:232066
TITLE: N-(Guanidinoalkoxybenzoyl)-α-(phenylsulfonylamino)-β-alanine derivatives and analogs for inhibiting osteoclast-mediated bone resorption
INVENTOR(S): Hartman, George D.; Duggan, Mark E.; Ihle, Nathan C.; Hoffman, William F.
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: PCT Int. Appl., 241 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9532710	A1	19951207	WO 1995-US5938		19950512 <--
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ					
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
CA 2190870	AA	19951207	CA 1995-2190870		19950512 <--
AU 9525868	A1	19951221	AU 1995-25868		19950512 <--
AU 701776	B2	19990204			
EP 760658	A1	19970312	EP 1995-920409		19950512 <--
EP 760658	B1	20021113			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE					
JP 10501222	T2	19980203	JP 1995-500899		19950512 <--
AT 227567	E	20021115	AT 1995-920409		19950512
ES 2186720	T3	20030516	ES 1995-920409		19950512
US 5741796	A	19980421	US 1996-714097		19960926 <--
PRIORITY APPLN. INFO.:			US 1994-250218	A	19940527
			WO 1995-US5938	W	19950512

OTHER SOURCE(S): MARPAT 124:232066
GI



I



II

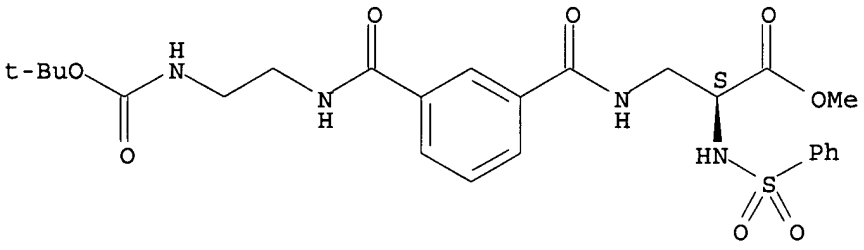
AB Compds. of structure I [X = various amino, amidino, guanidino, and N-**heterocyclic** groups; Y = alkylene, alkynylene, alkenylene, etc.; B = alkylene with optional amide moiety in chain; R1 = H, alkoxyalkyl, alkoxycarbonylalkyl, (di)(alkyl)aminoalkyl, aralkyl; R6, R7 = H, (di)alkylaminoalkyl, alkoxycarbonylaminoalkyl, alkylsulfonylaminoalkyl, alkylcarbonylaminoalkyl; R12 = OH, alkoxy, dialkylaminocarbonylmethoxy, aryldialkylaminocarbonylmethoxy; with a proviso], which inhibit osteoclast-mediated bone resorption. Syntheses of approx. 50 compds. in 37 synthetic examples are described. For example, amidation of 4-(BOC-NHCH2CH2O)C6H4CO2H with (R)-H2NCH2CH(NHSO2Ph)CO2Bu-tert.HCl [preparation given] using BOP reagent and NMM in MeCN, followed by deprotection with CF3CO2H and condensation of the amine with DPFN [3,5-dimethyl-1-pyrazolylformamidine nitrate], gave title compound II. In the EIB and OCFORM assays, I had values ranging 0.5-500 nM and 1-1000 nM, resp.

IT **174665-23-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of N-(guanidinoalkoxybenzoyl)-α-(phenylsulfonylamino)-β-alanine derivs. and analogs as bone resorption inhibitors)

RN 174665-23-7 CAPLUS

CN L-Alanine, 3-[[3-[[[2-[[(1,1-dimethylethoxy)carbonyl]amino]ethyl]amino]carbonyl]benzoyl]amino]-N-(phenylsulfonyl)-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

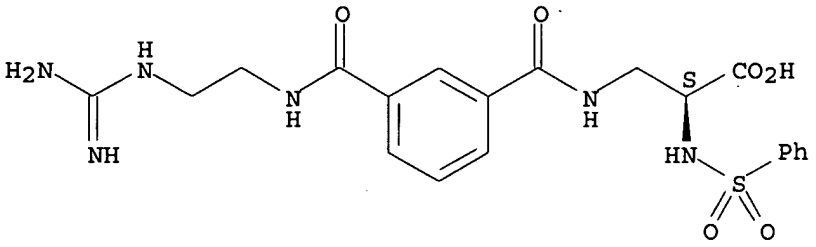


IT **174665-24-8P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(product; preparation of N-(guanidinoalkoxybenzoyl)-α-(phenylsulfonylamino)-β-alanine derivs. and analogs as bone resorption inhibitors)

RN 174665-24-8 CAPLUS

CN L-Alanine, 3-[[3-[[[2-[(aminoiminomethyl)amino]ethyl]amino]carbonyl]benzoyl]amino]-N-(phenylsulfonyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

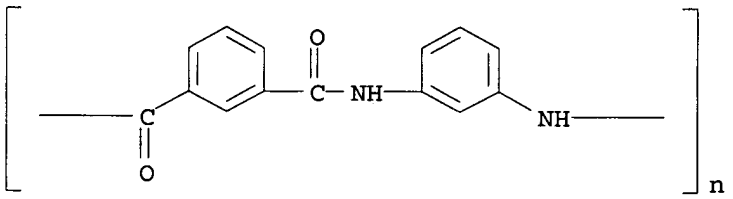


L7 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:63308 CAPLUS
DOCUMENT NUMBER: 114:63308
TITLE: Polymers with improved flammability characteristics
AUTHOR(S): Whang, W. T.; Pearce, E. M.
CORPORATE SOURCE: Polymer Res. Inst., Polytech. Univ., Brooklyn, NY, 11201, USA
SOURCE: ACS Symposium Series (**1990**), 425(Fire Polym.: Hazards Identif. Prev.), 266-73
CODEN: ACSMC8; ISSN: 0097-6156
DOCUMENT TYPE: Journal
LANGUAGE: English

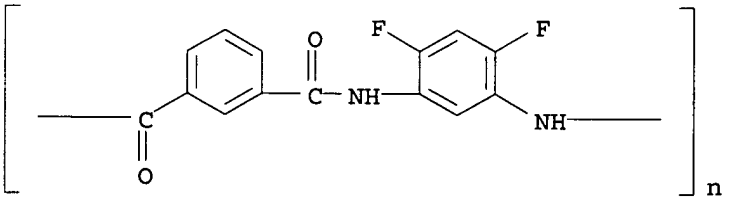
AB The flame resistance of polymeric materials was enhanced by the modification of chemical structure and the incorporation of additives. Polymers with more fused **heterocyclic** structures showed higher thermal stability and more char yield, i.e. polybenzoxazole > poly(2,4-difluoro-1,5-phenylene trimellitic amide-imide) > poly(2,4-difluoro-1,5-phenylene **isophthalamide**). The poly(amide imide) showed good solubility in N,N-di-Me acetamide and DMF with better processability than the polyamide. ZnCl2 was the best additive to improve the flame resistance of nonsubstituted poly(1,3-phenylene **isophthalamide**) (I). The material system increased 40% of the char yield and 5 units of the **O** index when compared with pure I.

IT **24938-60-1 36310-66-4**
RL: PRP (Properties)
(flammability of, additive and mol. structure effects on)

RN 24938-60-1 CAPLUS
CN Poly(imino-1,3-phenyleneiminocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)



RN 36310-66-4 CAPLUS
CN Poly[imino(4,6-difluoro-1,3-phenylene)iminocarbonyl-1,3-phenylenecarbonyl] (9CI) (CA INDEX NAME)



=> file stnguide

COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 62.92 | 218.99

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION
CA SUBSCRIBER PRICE | -7.00 | -7.00

FILE 'STNGUIDE' ENTERED AT 16:37:15 ON 14 DEC 2004
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Dec 10, 2004 (20041210/UP).

=> d 11-20 ibib abs hitstr
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:y

L7 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1988:423523 CAPLUS
DOCUMENT NUMBER: 109:23523
TITLE: Preparation of nitrogen-containing bisphenols
INVENTOR(S): Shannon, Thomas Gerard; Brunelle, Daniel Joseph
PATENT ASSIGNEE(S): General Electric Co., USA
SOURCE: Ger. Offen., 12 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3723610	A1	19880211	DE 1987-3723610	19870717 <--
US 4767877	A	19880830	US 1986-890054	19860728 <--
JP 63079863	A2	19880409	JP 1987-183823	19870724 <--

PRIORITY APPLN. INFO.: US 1986-890054 19860728
OTHER SOURCE(S): MARPAT 109:23523

AB The bisphenols Z1[(Z2)nCOZ3A2YA1OX]2 (A1, A2 = monocyclic arylene; X = H, COCl, COBr; Y = - or bridging group; Z1 = hydrocarbylene; Z2 = O or NR1; Z3 = NR2 when Z2 is O or n = 0, or O when Z2 = NR1 and n = 1 (R1 = H, hydrocarbyl; R3 = H, alkyl); n = 0 or 1] are useful in the preparation of cyclic **heterocarbonates** and linear polycarbonates. Thus, adding 25 mmol **isophthaloyl** chloride in 25 mL CH2Cl2 over 25 min to 50 mmol 4-HOC6H4C(Me)2C6H4NHMe-4, 50 mmol NaHCO3, 50 mL CH2Cl2, and 500 mL H2O stirred at high speed and stirring 10 min gave m-C6H4[CON(Me)p-C6H4C(Me)2C6H4OH-p]2 (I). Adding 1 g COCl2/min for 3 min to 6.12 g I in 50 mL CH2Cl2 at 0°, adding 3 g PhNEt2 in CH2Cl2 slowly at 0°, and stirring 15 min at room temperature gave a bis(chloroformate), polymerization of which in the presence of NaOH and Et3N gave a mixture (m.p. 140-160°) of polycarbonate-polyamide oligomers.

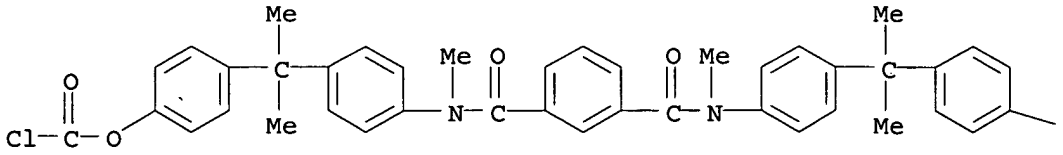
IT **114975-21-2P 114993-10-1P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, from cyclic oligomers)

RN 114975-21-2 CAPLUS
CN Carbonochloridic acid, 1,3-phenylenebis[carbonyl(methylimino)-4,1-phenylene(1-methylethylidene)-4,1-phenylene] ester, homopolymer (9CI) (CA INDEX NAME)

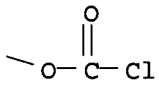
CM 1

CRN 114975-20-1
CMF C42 H38 Cl2 N2 O6

PAGE 1-A

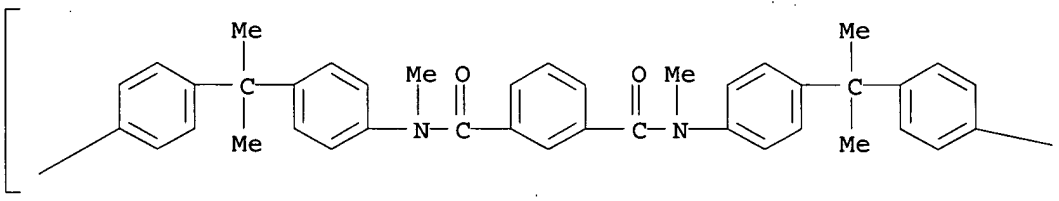


PAGE 1-B

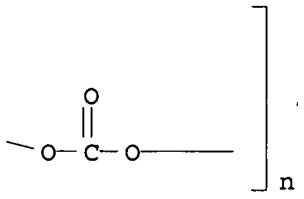


RN 114993-10-1 CAPLUS
CN Poly[oxycarbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene(methylimino)carbonyl-1,3-phenylenecarbonyl(methylimino)-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)

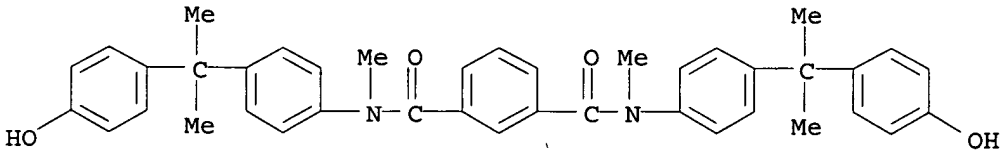
PAGE 1-A



PAGE 1-B



IT **115128-08-0P**
RL: PREP (Preparation)
(preparation of)
RN 115128-08-0 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[4-[1-(4-hydroxyphenyl)-1-methylethyl]phenyl]-N,N'-dimethyl- (9CI) (CA INDEX NAME)



L7 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1982:217781 CAPLUS
DOCUMENT NUMBER: 96:217781
TITLE: **Heterocyclic** β-enamino esters. 29. Base catalyzed N-methylene linkage with formaldehyde -

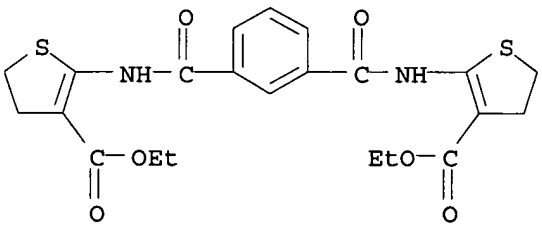
new bis(1,3-oxazines)
AUTHOR(S): Wamhoff, Heinrich; Hendrikx, Georg; Ertas, Mumtaz
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Bonn, Bonn, D-5300/1, Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (**1982**), (3), 489-98
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 96:217781
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

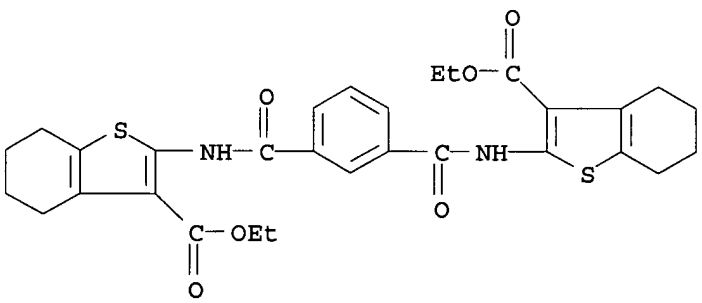
AB Enamine esters and nitriles I (R = CO2Et, cyano), II, and III were coupled with HCHO to give 19-82% the corresponding methylenediamines, e.g. IV. Pyrazoline V gave the 2:2 adduct VI. I (R = CO2Et) condensed with MeCHO to give the corresponding methylmethylenediamine. Me and Et 3-aminocrotonates and HCHO gave dihydropyridine VII (R1 = Me, Et). IV (R = CO2Et) reacted with (CH2COCl)2 to give the CH2 elimination product VIII; I (R = CO2Et) gave only polymeric products. IV (R = CO2Et) did not react with o-C6H4(COCl)2, but I (R = CO2Et) gave the 2-phthalimido analog. Diamides IX-XII, prepared from the corresponding amines, cyclized on treating with Ph3PCl2 to give bis(oxazines) XIII (Z the same) and XIV.

IT **81930-85-0P 81930-87-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of, bis(oxazine) derivative by)

RN 81930-85-0 CAPLUS
CN 3-Thiophenecarboxylic acid, 2,2'-[1,3-phenylenebis(carbonylimino)]bis[4,5-dihydro-, diethyl ester (9CI) (CA INDEX NAME)



RN 81930-87-2 CAPLUS
CN Benzo[b]thiophene-3-carboxylic acid, 2,2'-[1,3-phenylenebis(carbonylimino)]bis[4,5,6,7-tetrahydro-, diethyl ester (9CI) (CA INDEX NAME)



L7 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1982:200709 CAPLUS
DOCUMENT NUMBER: 96:200709

TITLE: Thermostable composition
INVENTOR(S): Chernikhov, A. Ya.; Yakovlev, M. N.; Rogov, N. S.
PATENT ASSIGNEE(S): USSR
SOURCE: Fr. Demande, 77 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2476068	A1	19810821	FR 1979-4447	19790221 <--
FR 2476068	B1	19821203		

PRIORITY APPLN. INFO.: FR 1979-4447 A 19790221

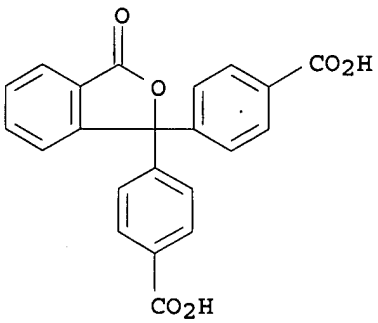
AB Organic compds. which contain Si, halogen, N, **S**, P, B, and/or **O** atoms and contain NH2, OH, SH, NCO, NSO, and/or NCS groups as well as cyano and/or ethynyl groups are mixed with a filler, such as TiO2, MoS2, Al, W, Co, Cu, graphite, glass fibers, asbestos, quartz, or silica, and polymerized to prepare ≈110 heat-resistant resins which are especially useful as binders (e.g., for abrasive particles such as diamonds and Si carbide) and adhesives. In some cases, the resins also contain a polyimide, polybenzoxazole, polyoxadiazole, polythioarylene, or similar resin which improves their mech. properties and heat resistance. Thus, 0.4 g powdered polybenzoxazole prepared from bis(4-amino-3-hydroxyphenyl)methane and **isophthalic** acid was mixed with asbestos 0.8, 2,5-diamino-3,4-dicyanothiophene 0.24, and bis(4-isocyanatophenyl)methane 0.36 g and cured in a mold for 90, 90, and 30 min at 190, 250, and 300°, resp. The compressive strength (kg/cm2) of the molding was 1000 initially and 1150 after 500 h at 300° in air.

IT **28603-47-6**
RL: USES (Uses)
(fillers, heat-resistant polymers containing)

RN 28603-47-6 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 4,4'-(3-oxo-1(3H)-isobenzofuranylidene)bis[benzoic acid] (9CI) (CA INDEX NAME)

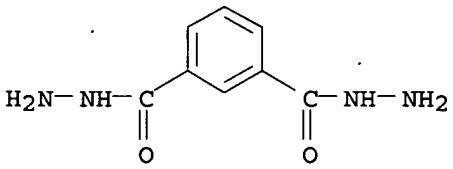
CM 1

CRN 7535-16-2
CMF C22 H14 O6



CM 2

CRN 2760-98-7
CMF C8 H10 N4 O2



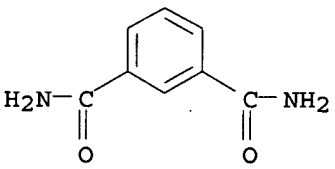
L7 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1981:157618 CAPLUS
DOCUMENT NUMBER: 94:157618
TITLE: Stepwise thermal degradation of a polybenzimidazole foam
AUTHOR(S): Chatfield, Dale A.; Einhorn, Irving N.
CORPORATE SOURCE: Chem. Dep., San Diego State Univ., San Diego, CA, 92182, USA
SOURCE: Journal of Polymer Science, Polymer Chemistry Edition (**1981**), 19(3), 601-18
CODEN: JPLCAT; ISSN: 0449-296X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The stepwise thermal degradation of 3,3'-diaminobenzidine-**isophthaldiamide** copolymer (I) [**28303-27-7**] foam was studied under conditions of pyrolysis and nonflaming oxidative degradation in a thermal analyzer using gas- and liquid-chromatog. separation and mass-spectrometric and IR detection techniques. The recoveries of sample weight, as degradation products, were quant. over the entire temperature ranges: 100-300, 300-570, 570-700, and 700-1000° for pyrolysis and 100-570 and 570-900° for nonflaming oxidation In pyrolysis, 17 volatile compds. were identified with NH3 and CH4 accounting for 94 and 57 mol % of the total mass loss between 300-570 and 570-700°, resp. Above 700°, HCN and H were formed from degradation of aryl nitrile-containing oligomers. The thermal and oxidative degradation of benzimidazole [51-17-2], 2-phenylbenzimidazole [716-79-0], and 2-benzylbenzimidazole [621-72-7] as model compds. were also studied, and the relative ratios of N, NH3, and HCN produced from each, when compared with I, support a mechanism for degradation that favors cleavages, that least alter the conjugation of I backbone. In the presence of air, I formed stable O-containing residues that decomposed at high temps. to N, CO2, and H2O almost exclusively. Large quantities of H and N from model compds. support results from I, that suggest that degradation begins with total erosion of the imide ring at 570° and the formation of more condensed **heterocyclic** species.

IT **28303-27-7**
RL: USES (Uses)
(cellular, pyrolytic and thermal oxidative degradation of, mechanism of)
RN 28303-27-7 CAPLUS
CN 1,3-Benzenedicarboxamide, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine (9CI) (CA INDEX NAME)

CM 1

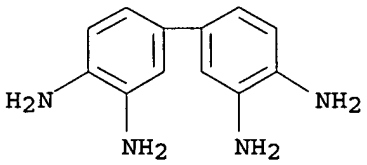
CRN 1740-57-4
CMF C8 H8 N2 O2



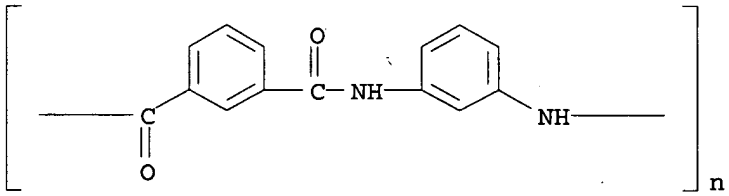
CM 2

CRN 91-95-2

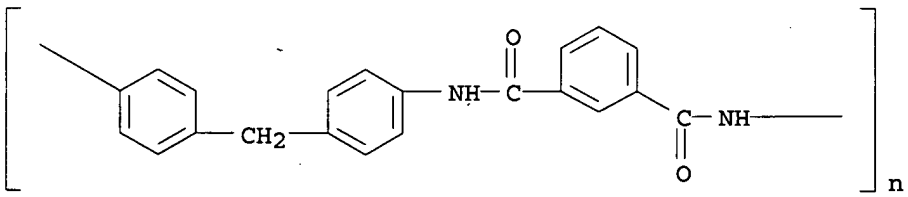
CMF C12 H14 N4



L7 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1980:94721 CAPLUS
DOCUMENT NUMBER: 92:94721
TITLE: Synthesis of aromatic polyamides from reactive N,N'-**isophthaloyldi**(thiolactam)**s** and aromatic diamines under mild conditions
AUTHOR(S): Ueda, Mitsuru; Aoyama, Shigeto; Imai, Yoshio
CORPORATE SOURCE: Fac. Eng., Yamagata Univ., Yonezawa, 992, Japan
SOURCE: Makromolekulare Chemie (**1979**), 180(12), 2807-11
CODEN: MACEAK; ISSN: 0025-116X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB N,N'-**Isophthaloylbis**(pyrrolidine-2-thione) (I, n = 3) [72642-35-4] and N,N'-**isophthaloylbis**(perhydroazepine-2-thione) (I, n = 5) [72642-37-6] were prepared from m-C6H4(COCl)2 [99-63-8] and the appropriate **heterocyclic** thiones and then polycondensed with H2NZNH2 (Z = m-C6H4, p-C6H4OC6H4-p, or p-C6H4CH2C6H4-p) in the presence of 1-hydroxybenzotriazole [2592-95-2] at 70° in N-methylpyrrolidinone to give aromatic polyamides with inherent viscosity ≤0.91 dL/g (0.5 g/dL in concentrated H2SO4 at 30°). The polycondensation also proceeded without catalyst at 20-100°. The condensation mechanism and the leaving-group effectiveness of the thiolactams are discussed.
IT **24938-60-1P 25667-73-6P 26026-92-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from **isophthaloylbis**(thiolactam))
RN 24938-60-1 CAPLUS
CN Poly(imino-1,3-phenyleneiminocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)

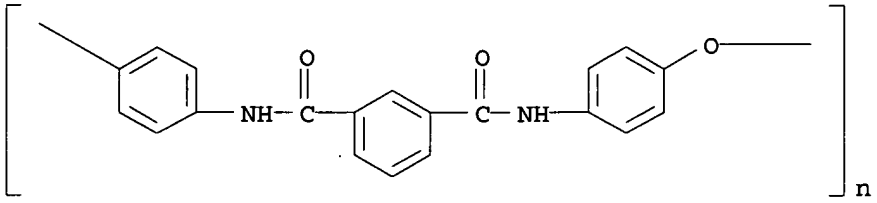


RN 25667-73-6 CAPLUS
CN Poly(iminocarbonyl-1,3-phenylenecarbonylimino-1,4-phenylenemethylene-1,4-phenylene) (9CI) (CA INDEX NAME)

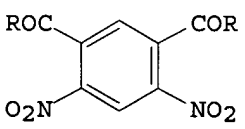


RN 26026-92-6 CAPLUS
CN Poly(oxy-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,4-

phenylene) (9CI) (CA INDEX NAME)



L7 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1978:50773 CAPLUS
DOCUMENT NUMBER: 88:50773
TITLE: Synthesis of new condensed **heterocyclic** systems
AUTHOR(S): Rusanov, A. L.; Plieva, L. Kh.; Kereselidze, M. K.; Korshak, V. V.
CORPORATE SOURCE: Inst. Elementoorg. Soedin., Moscow, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (**1977**), (9), 1274-7
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 88:50773
GI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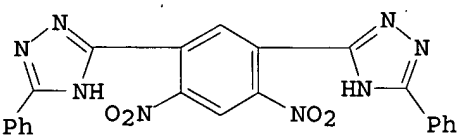
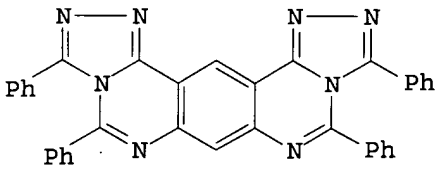
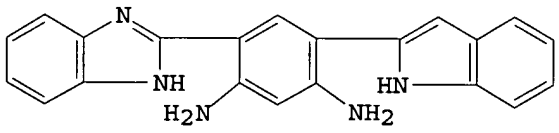
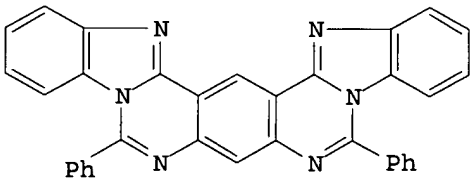

II


III


IV


V

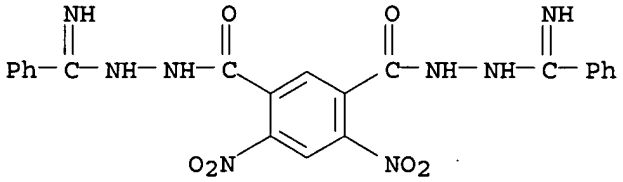
AB Condensing **isophthaloyl** chloride I (R = Cl) with PhC(NH2):NNH2 gave 72% I [R = PhC(NH2):NNH] which was cyclodehydrated to give 62% II. Reduction of II to the diamine followed by benzoylation and cyclodehydration gave 90% III. Similarly I (R = Cl) and o-O2NC6H4NH2 gave 63% I (R = o-O2NC6H4NH) which was reduced to the tetramine, cyclodehydrated to give 80% IV, benzoylated to the dibenzamido derivative, and cyclodehydrated to give 90% V.

IT **60386-85-8P 60386-87-0P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclodehydration of)

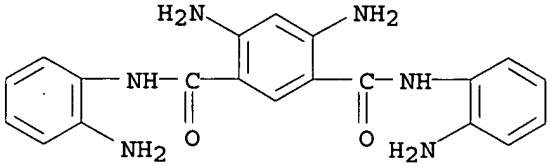
RN 60386-85-8 CAPLUS

CN 1,3-Benzenedicarboxylic acid, 4,6-dinitro-, bis[2-(iminophenylmethyl)hydrazide] (9CI) (CA INDEX NAME)



RN 60386-87-0 CAPLUS

CN 1,3-Benzenedicarboxamide, 4,6-diamino-N,N'-bis(2-aminophenyl)- (9CI) (CA INDEX NAME)

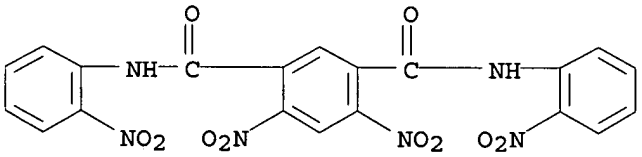


IT **52870-40-3P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reduction of)

RN 52870-40-3 CAPLUS

CN 1,3-Benzenedicarboxamide, 4,6-dinitro-N,N'-bis(2-nitrophenyl)- (9CI) (CA INDEX NAME)



L7 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1975:531973 CAPLUS

DOCUMENT NUMBER: 83:131973

TITLE: General method of the synthesis of step-ladder polymers

AUTHOR(S): Korshak, V. V.; Rusanov, A. L.; Iremashvili, T. G.; Plieva, L. Kh.; Lekae, T. V.

CORPORATE SOURCE: Inst. Elementoorg. Compd., Moscow, USSR

SOURCE: Makromolekulare Chemie (**1975**), 176(5), 1233-71
CODEN: MACEAK; ISSN: 0025-116X

DOCUMENT TYPE: Journal

LANGUAGE: English

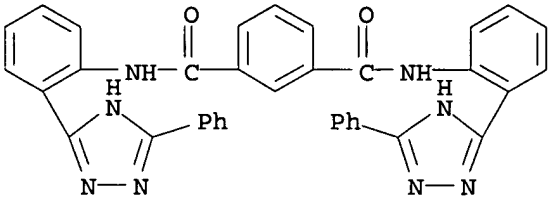
GI For diagram(s), see printed CA Issue.

AB Ladder polymers were prepared by treating aromatic diamines containing, in the ortho position, aromatic **heterocycles** containing reactive H atoms, with aromatic dicarboxylic acids or their derivs., and cyclizing the products. Diamines used included bis[5-(**o**-aminophenyl)-1,2,4-triazol-3-yl]arenes and bis[2-(**o**-aminophenyl)benzimidazol-6-yl] derivs. The cyclized products had general structures I and II (R, R1 = arylene). In a typical reaction, 1,4-bis[5-(**o**-aminophenyl)-1,2,4-triazol-3-

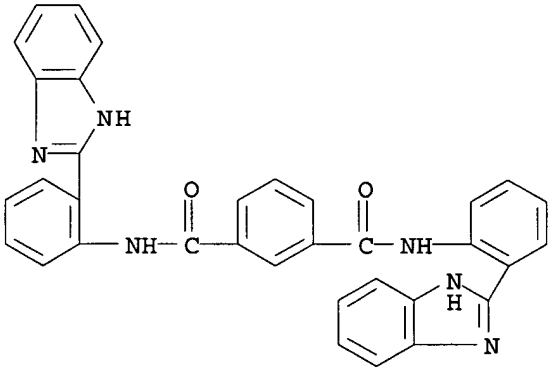
yl]benzene was treated with **isophthaloyl** chloride to give a polyamide intermediate [**43097-55-8**] and cyclized to I (R = p-phenylene, R1 = o-phenylene) [43097-85-4].

IT **43080-64-4 54559-59-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclodehydration of)

RN 43080-64-4 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[2-(5-phenyl-1H-1,2,4-triazol-3-yl)phenyl]- (9CI) (CA INDEX NAME)

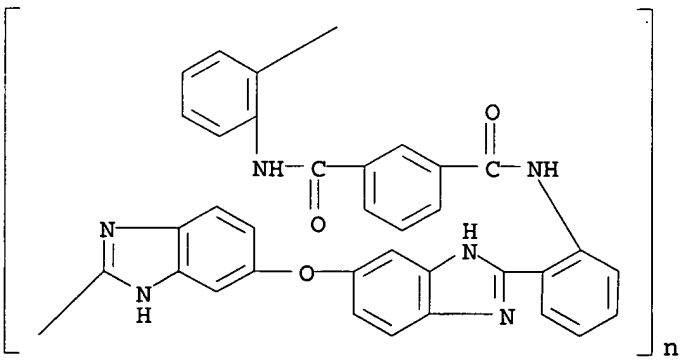


RN 54559-59-0 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[2-(1H-benzimidazol-2-yl)phenyl]- (9CI) (CA INDEX NAME)

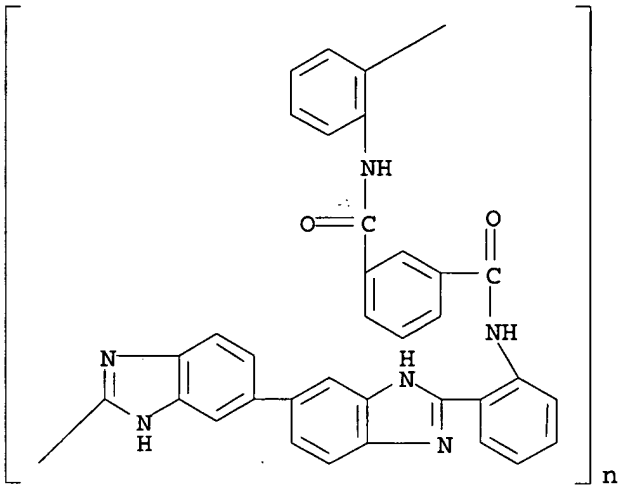


IT **27044-24-2P 29438-85-5P 31742-69-5P**
43097-55-8P 43097-78-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of heat-resistant)

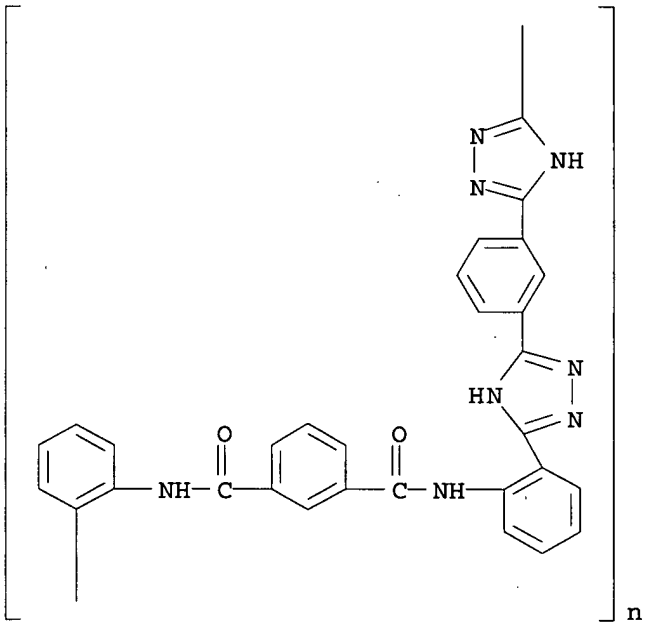
RN 27044-24-2 CAPLUS
CN Poly(1H-benzimidazole-2,5-diyloxy-1H-benzimidazole-5,2-diyl-1,2-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,2-phenylene) (9CI) (CA INDEX NAME)



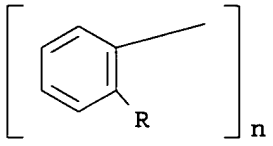
RN 29438-85-5 CAPLUS
CN Poly([5,5'-bi-1H-benzimidazole]-2,2'-diyl-1,2-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,2-phenylene) (9CI) (CA INDEX NAME)

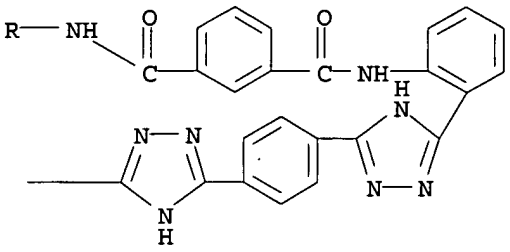


RN 31742-69-5 CAPLUS
CN Poly(1H-1,2,4-triazole-3,5-diyl-1,3-phenylene-1H-1,2,4-triazole-3,5-diyl-1,2-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,2-phenylene) (9CI) (CA INDEX NAME)

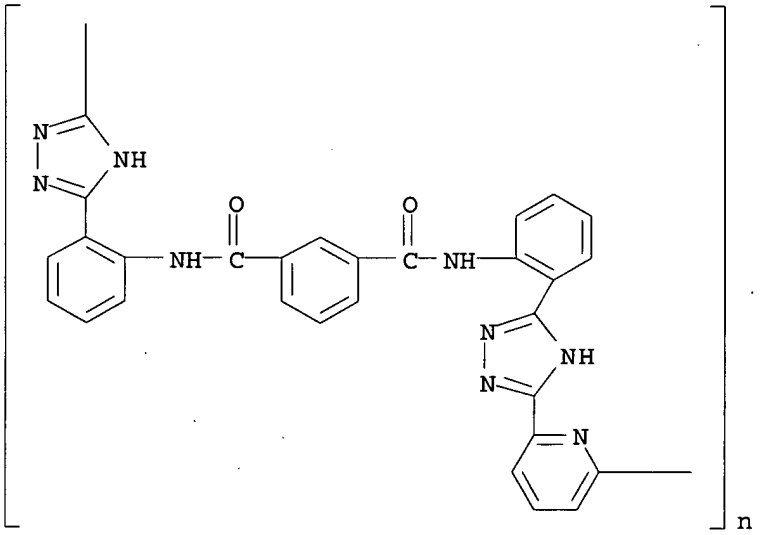


RN 43097-55-8 CAPLUS
CN Poly(1H-1,2,4-triazole-3,5-diyl-1,4-phenylene-1H-1,2,4-triazole-3,5-diyl-1,2-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,2-phenylene) (9CI) (CA INDEX NAME)





RN 43097-78-5 CAPLUS
CN Poly(2,6-pyridinediyl-1H-1,2,4-triazole-3,5-diyl-1,2-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,2-phenylene-1H-1,2,4-triazole-3,5-diyl) (9CI) (CA INDEX NAME)



L7 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1973:454112 CAPLUS
DOCUMENT NUMBER: 79:54112
TITLE: Synthesis of polyheteroarylenes for highly heat-resistant materials
AUTHOR(S): Chernikhov, A. Ya.; Rodivilova, L. A.; Kraevskaya, E. I.; Golubenkova, L. I.; Kovarskaya, B. M.; Nikonova, S. N.; Tsvetkov, V. N.; Pertsov, L. D.; Bogachev, G. V.
CORPORATE SOURCE: USSR
SOURCE: Plasticheskie Massy (**1973**), (4), 24-7
CODEN: PLMSAI; ISSN: 0554-2901
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB POD-2 (I) [28702-25-2] was prepared by the 1-step cyclopolycondensation of 3,3-bis(4-carboxyphenyl)phthalide with **isophthalic** acid dihydrazide in polyphosphoric acid. Higher heat-resistance had polybenzoxazole Oksolon [26023-46-1] formed by a 2-stage process: reaction of a bis-**o**-aminophenol with a diacid chloride at low temperature in AcNMe2 to give a hydroxypolyimide, followed by cyclization under vacuum or in an inert medium at 280-320.deg.. Glass fabric laminates with POD-2 as binder maintained a flexural strength of 1500 kg/cm2 for hundreds of hr at

300.deg.. Features of the synthesis of several other **heterocyclic** polymers were discussed.

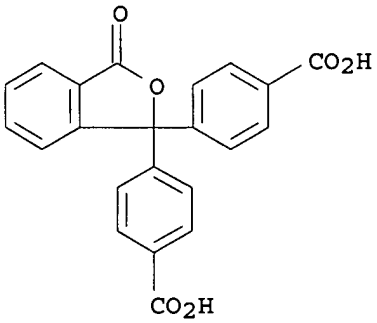
IT **28603-47-6**
RL: USES (Uses)
(glass fabric laminates with)

RN 28603-47-6 CAPLUS

CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 4,4'-(3-oxo-1(3H)-isobenzofuranylidene)bis[benzoic acid] (9CI) (CA INDEX NAME)

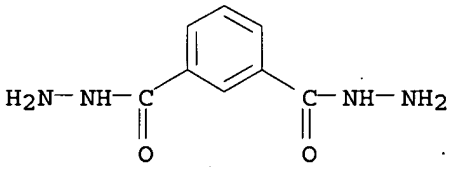
CM 1

CRN 7535-16-2
CMF C22 H14 O6



CM 2

CRN 2760-98-7
CMF C8 H10 N4 O2



L7 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1972:435018 CAPLUS
DOCUMENT NUMBER: 77:35018
TITLE: Amide-quinoxaline copolymers
AUTHOR(S): Duffy, James V.; Augl, Joseph M.
CORPORATE SOURCE: U.S. Nav. Ordnance Lab., Silver Spring, MD, USA
SOURCE: Journal of Polymer Science, Polymer Chemistry Edition (**1972**), 10(4), 1123-31
CODEN: JPLCAT; ISSN: 0449-296X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The title copolymers(I, Ar = **o**-, m-, or p-C6H4) were prepared by reaction of 4-aminobenzil (II) [31029-96-6] with phthaloyl, **isophthaloyl**, or terephthaloyl chloride to form bis(benzilyl) amides(III). III then reacted with aromatic tetraamines(IV, X = **O**, CO, SO2, single bond) to give I; the **isophthaloyl** and terephthaloyl polymers had decomposition temps. 445-95.deg. and were soluble in a variety of solvents. Thus, II reacted with **isophthaloyl** chloride [99-63-8] to form III(Ar = m-C6H4). Thus bis(benzilyl) amide reacted with 3,3'-diaminobenzidine [91-95-2] to give N,N'-bis(4-benzilyl) **isophthalamide**-3,3'-diaminobenzidine copolymer (I, Ar = m-C6H4, X = single bond) [**35209-38-2**].

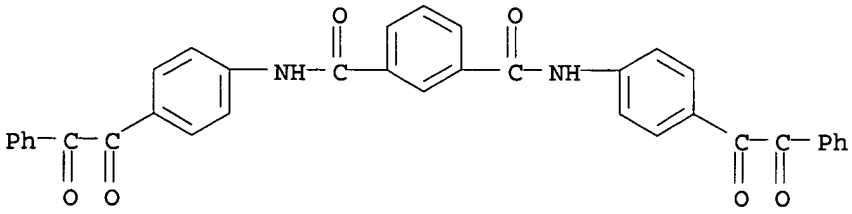
IT **35209-38-2P 37604-74-3P 37604-75-4P**

37604-76-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, heat-resistant)

RN 35209-38-2 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[4-(oxophenylacetyl)phenyl]-, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine (9CI) (CA INDEX NAME)

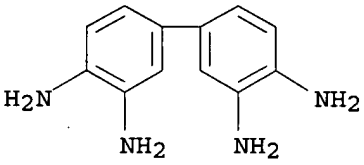
CM 1

CRN 42861-86-9
CMF C36 H24 N2 O6



CM 2

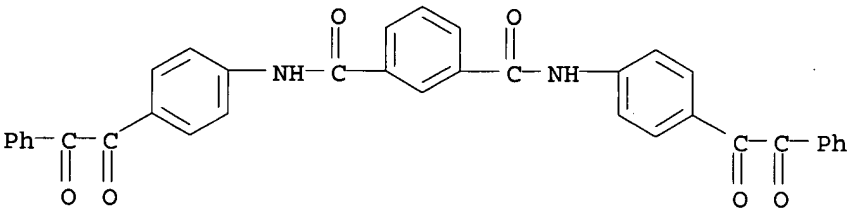
CRN 91-95-2
CMF C12 H14 N4



RN 37604-74-3 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[4-(oxophenylacetyl)phenyl]-, polymer with bis(3,4-diaminophenyl)methanone (9CI) (CA INDEX NAME)

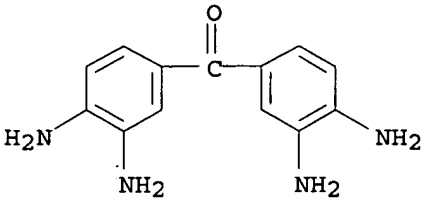
CM 1

CRN 42861-86-9
CMF C36 H24 N2 O6



CM 2

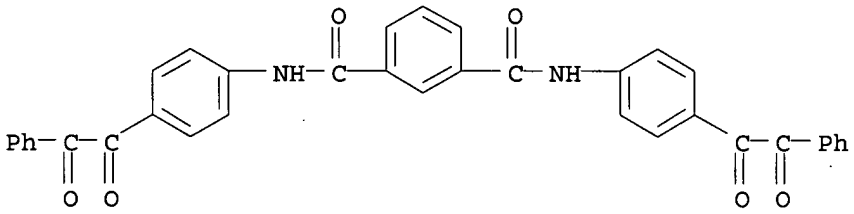
CRN 5007-67-0
CMF C13 H14 N4 O



RN 37604-75-4 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[4-(oxophenylacetyl)phenyl]-, polymer with 4,4'-sulfonylbis[1,2-benzenediamine] (9CI) (CA INDEX NAME)

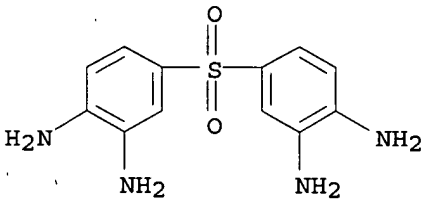
CM 1

CRN 42861-86-9
CMF C36 H24 N2 O6



CM 2

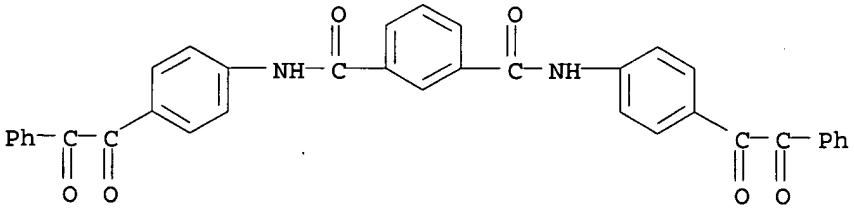
CRN 13224-79-8
CMF C12 H14 N4 O2 S



RN 37604-76-5 CAPLUS
CN 1,3-Benzenedicarboxamide, N,N'-bis[4-(oxophenylacetyl)phenyl]-, polymer with 4,4'-oxybis[1,2-benzenediamine] (9CI) (CA INDEX NAME)

CM 1

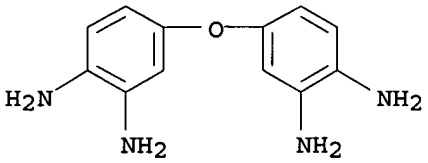
CRN 42861-86-9
CMF C36 H24 N2 O6



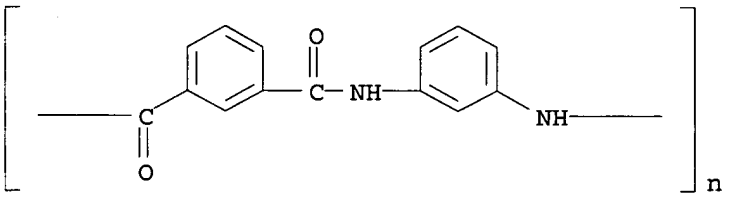
CM 2

CRN 2676-59-7

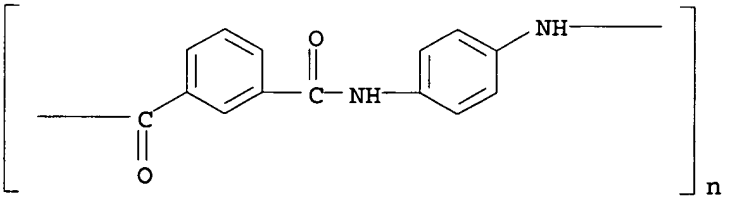
CMF C12 H14 N4 O



L7 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1972:127667 CAPLUS
DOCUMENT NUMBER: 76:127667
TITLE: Degradation of thermally stable polymers and its control
AUTHOR(S): Fontan-Yanes, J.; Babe, S. G.; Urrutia, H.; De Abajo, J.
CORPORATE SOURCE: Inst. Plast. Caucho, Patronato Juan de la Cierva, Madrid, Spain
SOURCE: Chimie & Industrie, Genie Chimique (**1971**), 104(20), 2551-65
CODEN: CIGCAE; ISSN: 0366-6433
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Thermogravimetric anal. showed that incorporation of trimellitimide, adipic acid, or sebacic acid into polyamide imides decreases thermal stability that replacement of terephthaloyl by **isophthaloyl** groups in polyamides generally has no effect on thermal stability, and that replacement of imidazolidindione rings in aromatic polyamides by oxazolone rings decreases the thermal stability. Replacement of naphthyloxy groups in polyethers containing **s**-triazine rings with bisphenol A oxy groups decreased the thermal stability 500.deg..
IT **24938-60-1 24938-61-2**
RL: PRP (Properties)
(thermal stability of)
RN 24938-60-1 CAPLUS
CN Poly(imino-1,3-phenyleneiminocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)



RN 24938-61-2 CAPLUS
CN Poly(imino-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)



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FULL ESTIMATED COST	0.06	267.45

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CA SUBSCRIBER PRICE	0.00	-14.00

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LAST RELOADED: Dec 10, 2004 (20041210/UP).

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PASSWORD:
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FILE 'STNGUIDE' ENTERED AT 16:49:20 ON 14 DEC 2004
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.18     320.97

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L1             STRUCTURE UPLOADED
               S L1

     FILE 'REGISTRY' ENTERED AT 16:31:27 ON 14 DEC 2004
L2         11673 S L1 FULL

     FILE 'CAPLUS' ENTERED AT 16:31:28 ON 14 DEC 2004
L3          7406 S L2 FULL
L4           540 S L3 AND HETERO?
L5           376 S L4 AND PY<2001
L6           140 S L5 AND (O OR S OR NH)
L7            31 S L6 AND ISOPHTHA?

     FILE 'STNGUIDE' ENTERED AT 16:37:15 ON 14 DEC 2004

     FILE 'CAPLUS' ENTERED AT 16:40:48 ON 14 DEC 2004

     FILE 'STNGUIDE' ENTERED AT 16:40:55 ON 14 DEC 2004

     FILE 'STNGUIDE' ENTERED AT 16:41:11 ON 14 DEC 2004

     FILE 'CAPLUS' ENTERED AT 16:46:32 ON 14 DEC 2004

     FILE 'STNGUIDE' ENTERED AT 16:46:38 ON 14 DEC 2004

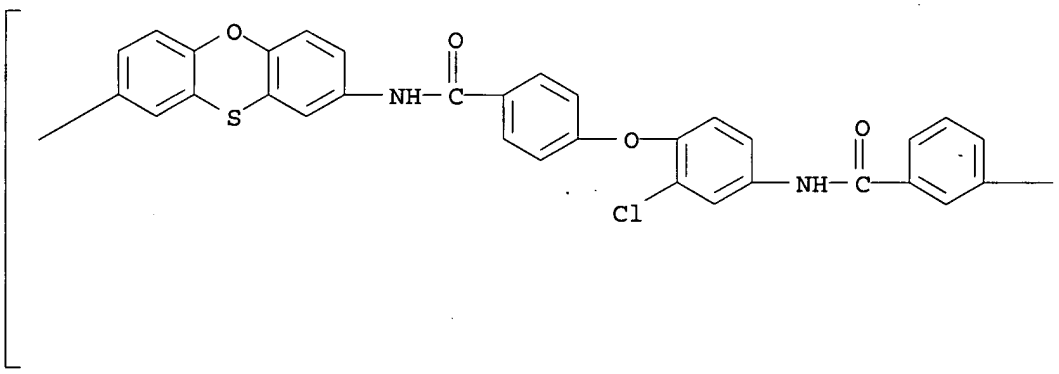
=> d l7 21-31 ibib abs hitstr
YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS' - CONTINUE? (Y)/N:y



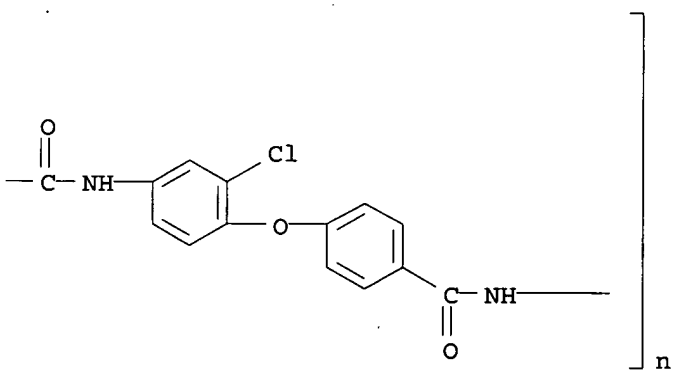
L7   ANSWER 21 OF 31  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         1971:4510  CAPLUS
DOCUMENT NUMBER:          74:4510
TITLE:                    Aromatic polyamides with heterocyclic ring
                          systems.  II
AUTHOR(S):                Kuenzel, Hans E.; Bentz, Francis; Wolf, Gerhard
                          Dieter; Blankenstein, Guenter; Nischk, Guenther
CORPORATE SOURCE:         Org.-Wiss. Lab., Farbenfabriken Bayer A.-G.,
                          Dormagen/Rhein, Fed. Rep. Ger.
```

SOURCE: Makromolekulare Chemie (**1970**), 138, 223-50
CODEN: MACEAK; ISSN: 0025-116X
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB The title polymers were prepared from **isophthaloyl** or terephthaloyl dichloride and the diamines shown, most of which were prepared by cyclizing the appropriate NO2-containing ortho-disubstituted aromatic compound and then reducing the NO2 groups. I (m = n = 0, X = **O**, Y = CO) gave soluble polyamides of poor thermal stability and textile properties, while polyamides from I (m = 1, n = 0, X = **O**, Y = CO) and I (m = 0, n = 1, X = **O**, Y = CO) had both good textile and good thermal properties. Polymers from I (m = n = 0, X = MeN, Y = CO), II (n = 0), and II (n = 1) had good thermal stability but poor textile properties. Polyamides from I (m = n = 0, X = RN, Y = SO2) had poor thermal and textile properties. III (n = 0) or its **S**, **S**-dioxide gave insol. polymers, while III (n = 1, X = **O** or SO2) gave soluble polymers of moderately good thermal stability. IV (R = H) gave insol. polymers, but IV (R = Me) and iso-phthaloyl dichloride gave a soluble polymer of low thermal stability.
IT **31513-01-6 31586-33-1 31586-34-2 31586-36-4 31586-38-6 31586-39-7 32574-23-5**
RL: USES (Uses)
(fiber)
RN 31513-01-6 CAPLUS
CN Poly[2,8-phenoxathiindiyliminocarbonyl-1,4-phenyleneoxy(2-chloro-1,4-phenylene)iminocarbonyl-1,3-phenylenecarbonylimino(3-chloro-1,4-phenylene)oxy-1,4-phenylenecarbonylimino] (9CI) (CA INDEX NAME)

PAGE 1-A



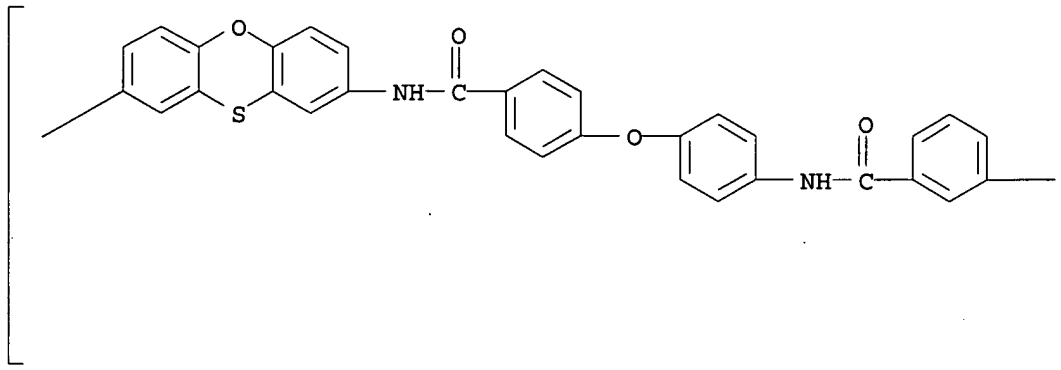
PAGE 1-B



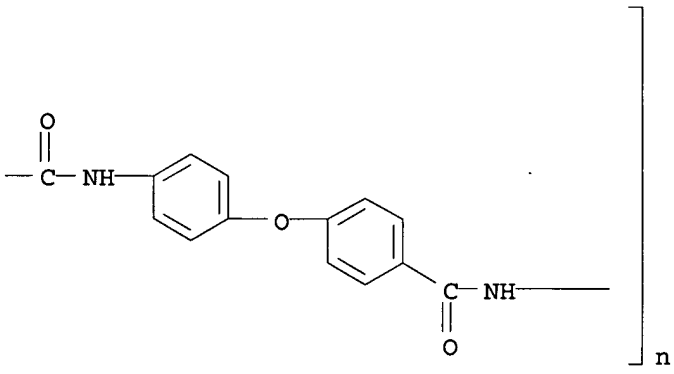
RN 31586-33-1 CAPLUS

CN Poly(2,8-phenoxathiindiyliminocarbonyl-1,4-phenyleneoxy-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,4-phenyleneoxy-1,4-phenylenecarbonylimino) (9CI) (CA INDEX NAME)

PAGE 1-A



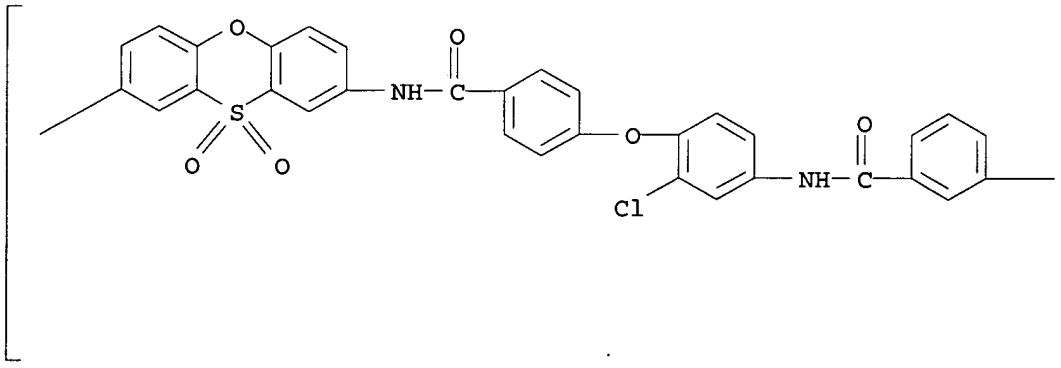
PAGE 1-B



RN 31586-34-2 CAPLUS

CN Poly[(10,10-dioxido-2,8-phenoxathiindiyl)iminocarbonyl-1,4-phenyleneoxy(2-chloro-1,4-phenylene)iminocarbonyl-1,3-phenylenecarbonylimino(3-chloro-1,4-phenylene)oxy-1,4-phenylenecarbonylimino] (9CI) (CA INDEX NAME)

PAGE 1-A



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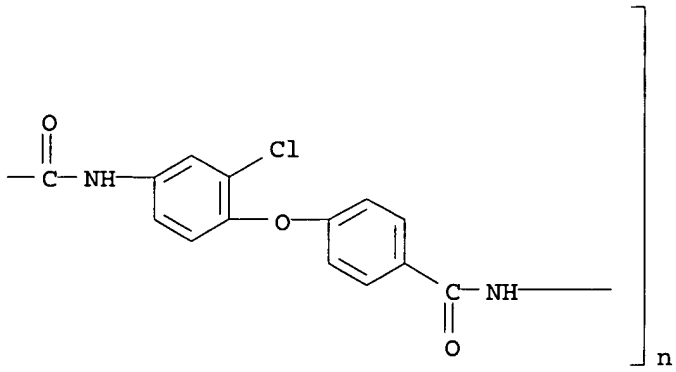
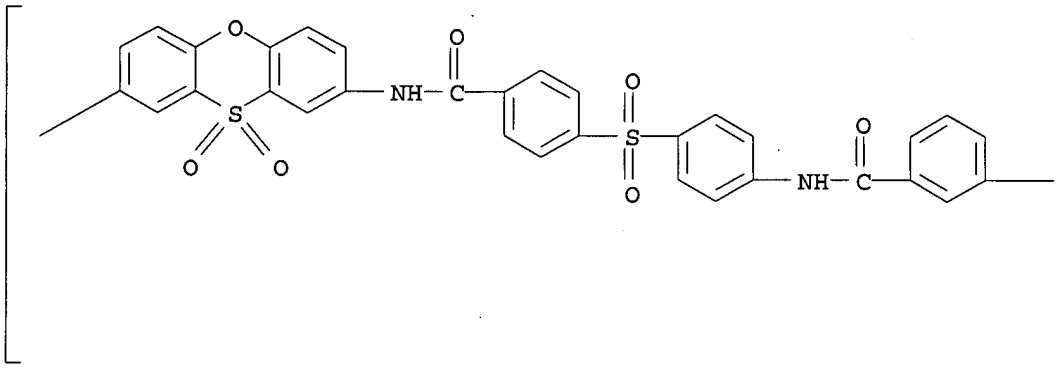
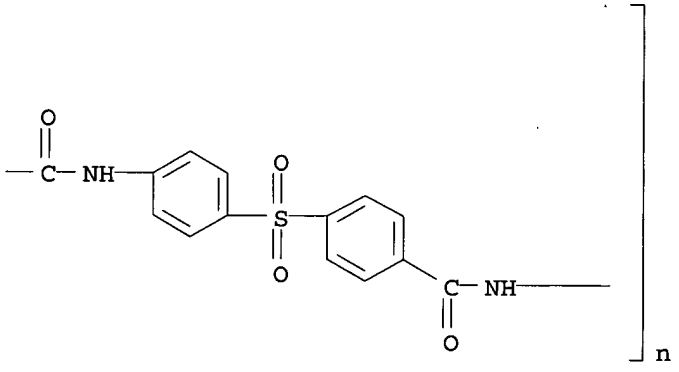


RN 31586-36-4 CAPLUS
CN Poly[(10,10-dioxido-2,8-phenoxathiindiyl)iminocarbonyl-1,4-phenylenesulfonyl-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,4-phenylenesulfonyl-1,4-phenylenecarbonylimino] (9CI) (CA INDEX NAME)

PAGE 1-A

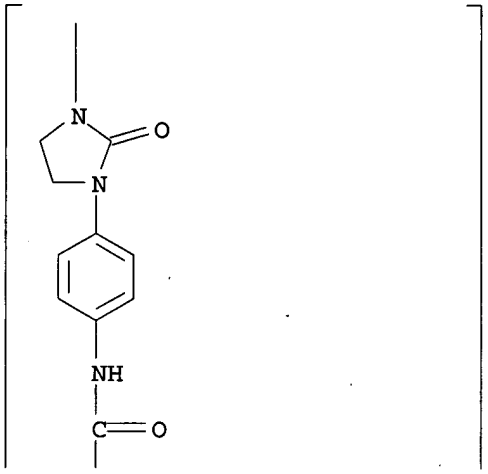


PAGE 1-B

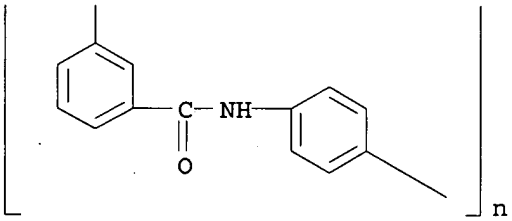


RN 31586-38-6 CAPLUS
CN Poly[(2-oxo-1,3-imidazolidinediyl)-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

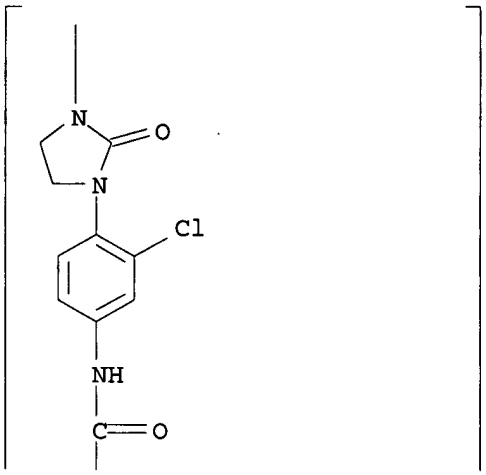


PAGE 2-A

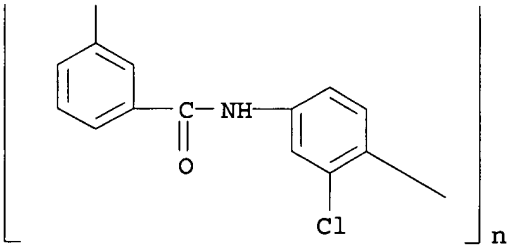


RN 31586-39-7 CAPLUS
CN Poly[(2-oxo-1,3-imidazolidinediyl)(2-chloro-1,4-phenylene)iminocarbonyl-1,3-phenylenecarbonylimino(3-chloro-1,4-phenylene)] (9CI) (CA INDEX NAME)

PAGE 1-A



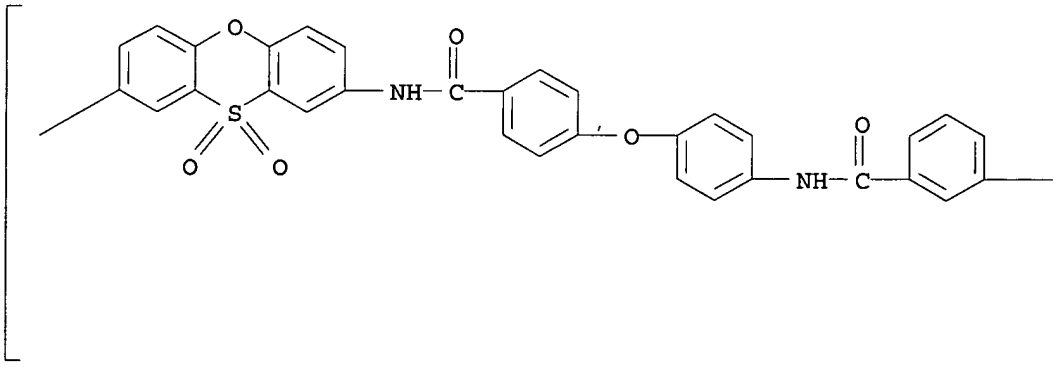
PAGE 2-A

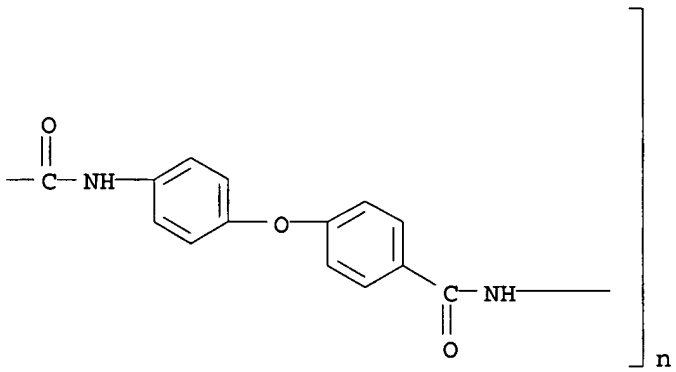


RN 32574-23-5 CAPLUS

CN Poly[(10,10-dioxido-2,8-phenoxathiindiyl)iminocarbonyl-1,4-phenyleneoxy-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonylimino-1,4-phenyleneoxy-1,4-phenylenecarbonylimino] (9CI) (CA INDEX NAME)

PAGE 1-A





L7 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:456735 CAPLUS
DOCUMENT NUMBER: 73:56735
TITLE: Permselective polymer membranes
INVENTOR(S): Richter, John W.; Hoehn, Harvey H.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co.
SOURCE: Ger. Offen., 79 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1941022	A	19700604	DE 1969-1941022	19690812 <--
US 3567632	A	19710302	US 1969-848611	19690808 <--
BE 737710	A	19700220	BE 1969-737710	19690820 <--
GB 1259170	A	19720105	GB 1969-1259170	19690827 <--
CH 523702	A	19720615	CH 1969-523702	19690902 <--
ES 371174	A1	19720116	ES 1969-371174	19690903 <--
BR 6912111	A0	19730410	BR 1969-212111	19690903 <--
NO 129750	B	19740520	NO 1969-3532	19690903 <--
SE 370322	B	19741014	SE 1969-12183	19690903 <--
JP 53043540	B4	19781121	JP 1969-69640	19690903 <--
NL 6913516	A	19700306	NL 1969-13516	19690904 <--
NL 164208	B	19800715		
NL 164208	C	19801215		
FR 2017387	A5	19700522	FR 1969-30211	19690904 <--
SU 514562	D	19760515	SU 1969-1358114	19690904 <--
PRIORITY APPLN. INFO.:			US 1968-757272	19680904
			US 1969-848611	19690808
			US 1969-848811	19690808

AB Polycondensates used in permselective membranes consist of aromatic or **heterocyclic** rings or groups (R), bound with bridging moieties (L) containing CS or CO and **NH** or substituted imino groups, e.g. L = carbamoyl, acylhydrazo, or ureylene. They have a high enough mol. weight to be film-forming, and have a solubility ≥10% in 0-3% solns. of LiCl in AcNMe2, Me2SO, N-methylpyrrolidinone, OP(NMe2)3, or their mixts. The polymer is also characterized by a quantity NR, obtained by subtracting 10 times the number of ionic groups in R and the number of H-bonding polar groups in R from the total number of atoms in R and averaging over the polycondensate. The ratio of NR to the average value of (1 + number of CO and CS groups in L)/2 is <10, and the ratio of the total number of ionic side chains to the mol. weight is <1:500. The R groups contain <20% atoms bound linearly in the main chain. Typical polymers include polycondensates from 3-aminobenzohydrazide, 4-aminobenzohydrazide, **isophthaloyl** dichloride, and terephthaloyl dichloride, poly(m-phenyleneterephthalamide-**isophthalamide**), and a polysemicarbazide from 4,4'-methylenebis(Ph isocyanate) and **isophthalic** acid dihydrazide. Membranes from these polymers have high water permeability, salt rejection, and mech.

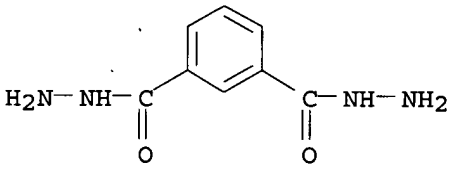
strength, and can withstand high operating pressures for long periods of time. They are especially useful as reverse-osmosis membranes for desalination, and can be used in the form of hollow fibers or asym. membranes.

IT **28040-76-8 28041-09-0**
RL: USES (Uses)
(membranes, permselective)

RN 28040-76-8 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

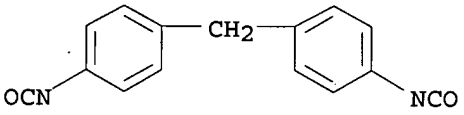
CM 1

CRN 2760-98-7
CMF C8 H10 N4 O2



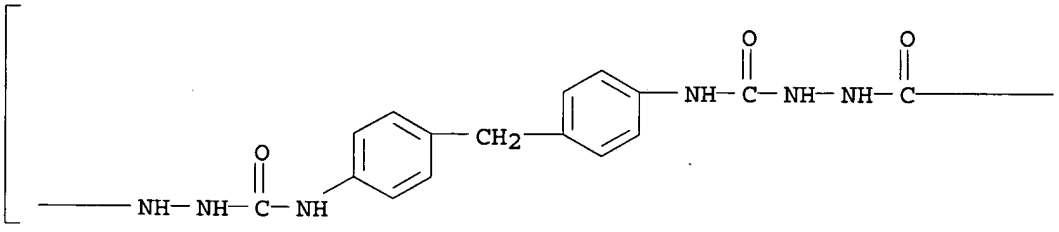
CM 2

CRN 101-68-8
CMF C15 H10 N2 O2

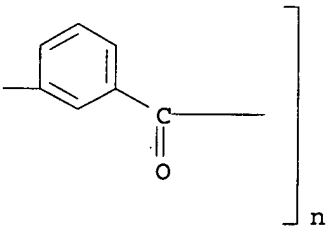


RN 28041-09-0 CAPLUS
CN Poly(hydrazocarbonylimino-1,4-phenylenemethylene-1,4-phenyleneiminocarbonylhydrazocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L7 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1970:426342 CAPLUS
DOCUMENT NUMBER: 73:26342
TITLE: Permselective plastic membrane
INVENTOR(S): Richter, William J. K.; Hoehn, Harvey H.
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co.
SOURCE: Ger. Offen., 86 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1941932	B2	19790222	DE 1969-1941932	19690818 <--
DE 1941932	C3	19791011		
US 3567632	A	19710302	US 1969-848611	19690808 <--
BE 737710	A	19700220	BE 1969-737710	19690820 <--
GB 1259170	A	19720105	GB 1969-1259170	19690827 <--
CH 523702	A	19720615	CH 1969-523702	19690902 <--
ES 371174	A1	19720116	ES 1969-371174	19690903 <--
BR 6912111	A0	19730410	BR 1969-212111	19690903 <--
NO 129750	B	19740520	NO 1969-3532	19690903 <--
SE 370322	B	19741014	SE 1969-12183	19690903 <--
JP 53043540	B4	19781121	JP 1969-69640	19690903 <--
NL 6913516	A	19700306	NL 1969-13516	19690904 <--
NL 164208	B	19800715		
NL 164208	C	19801215		
FR 2017387	A5	19700522	FR 1969-30211	19690904 <--
SU 514562	D	19760515	SU 1969-1358114	19690904 <--

PRIORITY APPLN. INFO.: US 1968-757272 19680904
US 1969-848611 19690808
US 1969-848811 19690808

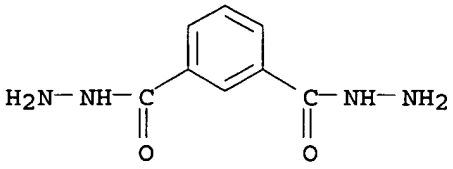
AB Polycondensates used in permselective membranes consist of aromatic or **heterocyclic** rings or groups (R) bound with bridging moieties (L) containing CS or CO and **NH** or substituted imino groups, e.g. L = carbamoyl, acylhydrazo, or ureylene. They have high enough mol. weight to be film-forming, and have solubility ≥10% in 0-3% LiCl in AcNMe2, Me2SO, N-methylpyrrolidinone, OP(NMe2)3, or their mixts. The polymer is also characterized by a quantity NR, obtained by subtracting 10 times the number of ionic groups in R and the number of H-bonding polar groups in R from the total number of atoms in R and averaging over the polycondensate. The ratio of NR to the average value of (1 + number of CO and CS groups in L)/2 is <10, and the ratio of the total number of ionic side chains to the mol. weight is <1:500. Typical polymers included a polycondensate from 3-aminobenzohydrazide, 4-aminobenzohydrazide, **isophthaloyl** dichloride, and terephthaloyl dichloride, poly(m - phenyleneterephthalamide-**isophthalamide**), and a polysemicarbazide from 4,4'-methylenebis(Ph isocyanate) and **isophthalic** acid dihydrazide. Membranes from these polymers have high water permeability, salt rejection, and mech. strength, and can withstand high operating pressures for long periods of time. They are especially useful as reverse osmosis membranes for desalination, and can be used in the form of hollow fibers.

IT **27924-52-3**, **Isophthalic** acid, dihydrazide, polymer with terephthalic acid **28040-76-8** **28041-09-0**
RL: USES (Uses)
(permselective membranes)

RN 27924-52-3 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1,4-benzenedicarboxylic acid (9CI) (CA INDEX NAME)

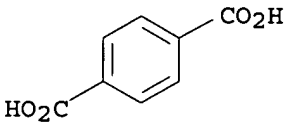
CM 1

CRN 2760-98-7
CMF C8 H10 N4 O2



CM 2

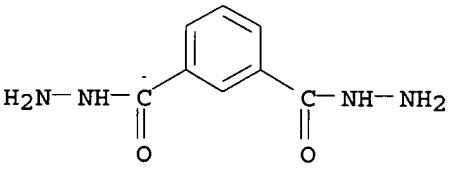
CRN 100-21-0
CMF C8 H6 O4



RN 28040-76-8 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

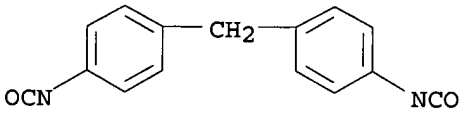
CM 1

CRN 2760-98-7
CMF C8 H10 N4 O2



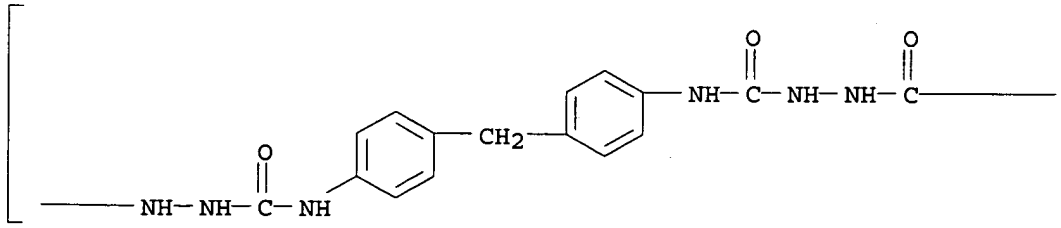
CM 2

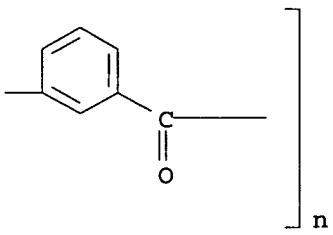
CRN 101-68-8
CMF C15 H10 N2 O2



RN 28041-09-0 CAPLUS
CN Poly(hydrazocarbonylimino-1,4-phenylenemethylene-1,4-phenyleneiminocarbonylhydrazocarbonyl-1,3-phenylenecarbonyl) (9CI) (CA INDEX NAME)

PAGE 1-A





L7 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1969:20885 CAPLUS
DOCUMENT NUMBER: 70:20885
TITLE: Organic fiber-formation research
AUTHOR(S): Spain, Raymond G.; Picklesimer, Lewellyn G.
CORPORATE SOURCE: Air Force Mater. Lab., Wright-Patterson Air Force Base, OH, USA
SOURCE: Textile Research Journal (**1966**), 36(7), 619-25
CODEN: TRJOA9; ISSN: 0040-5175
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The melt polymerization of 3,3'-diaminobenzidine and di-Ph **isophthalate** to poly(5,5'-bibenzimidazole-2,2'-diyl-m-phenylene) (I) was conducted in 2 stages. The initial stage was at 290°, at which point a solid foam forms. The mass was allowed to cool, and then ground. A second stage reaction was carried out at .apprx.375° to an uncorrected inherent viscosity (0.4 g. polymer/100 ml. H_2SO_4) of 0.7-0.9. The polymer was then precipitated from AcNMe2 with MeOH, and vacuum dried. Spinning dopes were prepared with AcNMe2. The spun fiber had tenacity 1.49 g./ denier and elongation 112.0%. After steam drawing at 103° to a draw ratio of 1.2, tenacity was 1.67 g./denier and elongation 88.0%. The same fiber, drawn at a ratio of 2.3 over a hot shoe at 450° had tenacity 4.80 g./denier and elongation 7.6%. The fibers had substantial retention of mech. properties at temps. ≤300°. At 400°, while elongation decreased from 33% to 2% after 3 hrs., the 1% modulus changed only from 77 to 66 g./ denier. Polyoxadiazole fibers, containing alternating phenylene and 1,3,4-oxadiazole units, were prepared via a precursor polyhydrazide because of the poor solubility of the final product in spinning solvents. The polyhydrazide (II) from **isophthaloyl** hydrazide and terephthaloyl chloride was used to prepare poly(1,3,4-oxadiazole-2,5-diyl-m-phenylene-1,3,4-oxadiazole-2,5-diyl-p-phenylene) (III), by initially heating for 24 hrs. at 275° and completing the reaction at 320° in 48 hrs. The spun polyhydrazide fiber was converted to the polyoxadiazole before drawing. A total draw of .apprx.4:1 at 380° and 420° gave fiber of tenacity 4.9 g./denier and elongation 17%. The fiber retained its properties well after refluxing in both 10% H_2SO_4, and 10% NaOH. Polythiadiazoles were also prepared from II by treatment with P_2S_5 in refluxing pyridine. Partial **S** substitution, to the poly(oxa thia hydrazide) (IV), gives a polymer which can be dry-spun, is 50% soluble in pyridine, and can be converted to the polythiadiazole by a few sec. exposure to 300°. Rapid drawing and conversion of the spun fiber give the best results. Thizole polymers were prepared by the solution condensation of bis-α-halo ketones and dithioamides in HOAc (polymer, reaction temperature, reaction time (hrs.), yield (%), intrinsic viscosity (dl./g.), m.p., and decomposition temperature given): poly(thiazole-4,2-diylmethylenethiazole-2,4-diyl-p-phenylene), 60°, 22, 75, 0.13, none, >500°; poly(thiazole-4,2-diylethylene-thiazole-2,4-diyl-p-phenylene), 60°, 18, 20, 0.87, 315°, -; poly-(thiazole-2,4-diyl-p-phenylenethiazole-4,2-diyltetramethylene) (V), 57°, 16, 44, 3.96, 250°, 487°; poly(thiazole-2,4-diyl-p-phenylenethiazole-4,2-diyl-p-phenylene), 118°, 3, 43, 0.14; none, >500°. V was the only polymer which gave good fibers, and was spun by wet spinning into a fiber which was drawn to ratio of 3.0, denier 4.2,

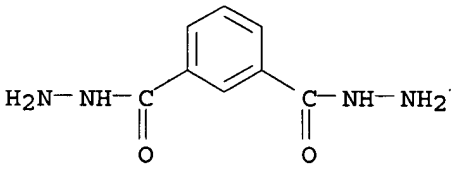
tenacity 3.3 g./denier, and elongation 61%. V with viscosity >2.69 dl./g. could not be melt-spun, while those with viscosity <2.69 dl./g. could not be dry spun. Poly(phenylenetriazoles) were prepared by condensing a dihydrazide and a diacid chloride and cyclizing the resulting polyhydrazide with aniline and polyphosphoric acid. Most of the polymers obtained by this method were too low in mol. weight to have good fiber forming properties. Poly(4-phenyl-4H-1,2,4-triazole-3,5-diyl-m-phenylene-4-phenyl-4H-1,2,4-triazole-3,5-diyl-p-phenylene) (VI), inherent viscosity 1.72, gave a fiber with tenacity 2.52 g./denier.

IT **27308-23-2P 27576-11-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of fiber-forming)

RN 27308-23-2 CAPLUS
CN 1,3-Benzenedicarboxylic acid, dihydrazide, polymer with 1,4-benzenedicarbonyl dichloride (9CI) (CA INDEX NAME)

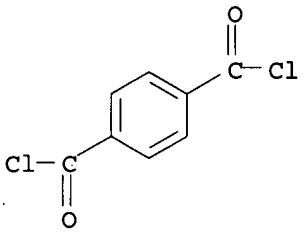
CM 1

CRN 2760-98-7
CMF C8 H10 N4 O2

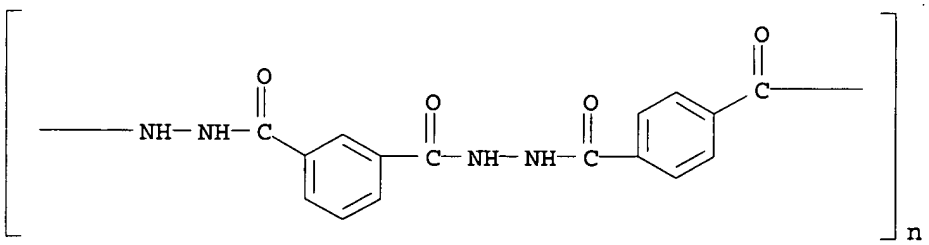


CM 2

CRN 100-20-9
CMF C8 H4 Cl2 O2



RN 27576-11-0 CAPLUS
CN Poly(hydrazocarbonyl-1,3-phenylenecarbonylhydrazocarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



L7 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1969:20661 CAPLUS
DOCUMENT NUMBER: 70:20661
TITLE: Crosslinked 1,3,4-polyoxadiazoles
INVENTOR(S): Pruckmayr, Gerfried

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3410834	A	19681112	US 1964-415792	19641203 <--

PRIORITY APPLN. INFO.: US 1964-415792 A 19641203

GI For diagram(s), see printed CA Issue.

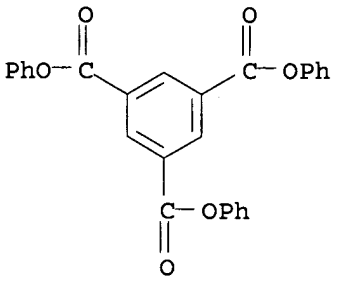
AB The title polymers (I), in which the R's are aromatic carbocyclic or **heterocyclic** radicals, are prepared by heating low-mol.-weight, meltable polyhydrazides prepared from a triester and a dihydrazide, i.e., from tri-Ph trimesoate (II) and **isophthaloyl** dihydrazide (III), p,p'-diphenyl oxide dicarboxylic acid dihydrazide, or a mixture of III and di-Ph **isophthalate**. Because of their high thermal stability, I are especially useful as metal adhesives (e.g., in aircraft) for bonding Cu, brass, Al, Ti, Mo, steel, and stainless steel, but they can also be used as shaped articles and coatings. Thus, under N, a powdered mixture of 2.92 g. II and 1.94 g. III was stirred at 260° (PhOH evolved) for 10 min. to give a homogeneous polyhydrazide, which was cooled and ground to a white powder softening at 160-70°. On further heating, the polymer polymerized and began to lose weight at 230°. The final crosslinked I was stable at 400° under He and lost 2, 3.5, 8, and 18% of its weight at 425, 450, 475, and 500°, resp., when heated at 9°/min. The powdered I prepared above was placed between stainless-steel plates and heated at 300° and 200 psi. for 2 hrs. The resulting bond shear strength was 3200 psi. at 25° and 2300 psi. at 300° (ASTM D-1002).

IT **27774-31-8 27774-32-9**
RL: USES (Uses)
(as heat-resistant adhesives for metals)

RN 27774-31-8 CAPLUS
CN 1,3,5-Benzenetricarboxylic acid, triphenyl ester, polymer with isophthalic acid dihydrazide (8CI) (CA INDEX NAME)

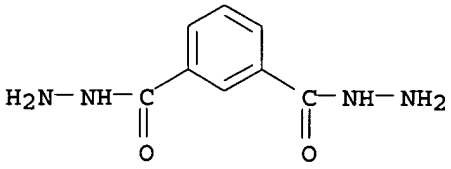
CM 1

CRN 7383-70-2
CMF C27 H18 O6



CM 2

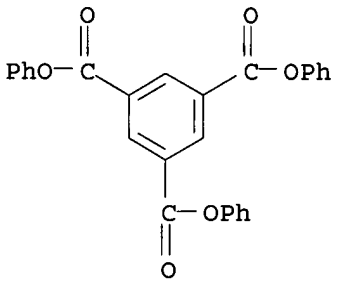
CRN 2760-98-7
CMF C8 H10 N4 O2



RN 27774-32-9 CAPLUS
CN 1,3,5-Benzenetricarboxylic acid, triphenyl ester, polymer with isophthalic acid and isophthalic acid dihydrazide (8CI) (CA INDEX NAME)

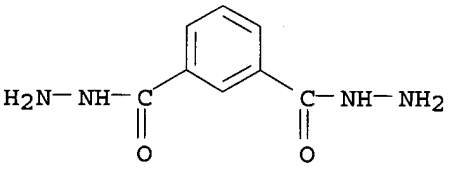
CM 1

CRN 7383-70-2
CMF C27 H18 O6



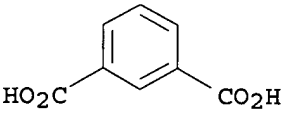
CM 2

CRN 2760-98-7
CMF C8 H10 N4 O2



CM 3

CRN 121-91-5
CMF C8 H6 O4



L7 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1968:105788 CAPLUS
DOCUMENT NUMBER: 68:105788
TITLE: Thermally stable **heterocyclic** resins containing nitrogen and oxygen
INVENTOR(S): Rabilloud, Guy; Sillion, Bernard; De Gaudemaris, Gabriel
PATENT ASSIGNEE(S): Institut Francais du Petrole, des Carburants et Lubrifiants
SOURCE: Fr., 4 pp.

CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1492792		19670825	FR	19650825 <--

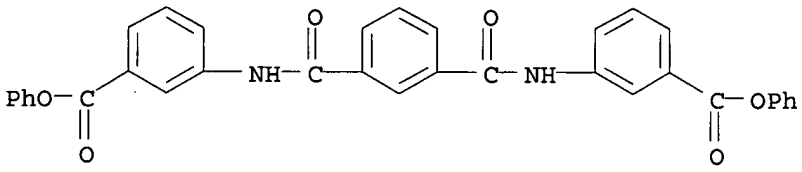
AB The title compds., which are used as adherent coatings, are prepared by treating aromatic diesters with aromatic diamines, then treating the product with an **o**-aminophenol. Thus, to 9.54 g. fused Ph **isophthalate**, 1.08 g. m-phenylenediamine (I) was added during 45 min. at 250° and the mixture was maintained for 1 hr. at this temperature The solid formed was dissolved in Me2SO, and heated 25 min. at 185° with 4.32 g. 3,3'-dihydroxybenzidine (II) to give a viscous solution which was used to impregnate glass fabrics. After evaporation of the solvents in vacuo at 100-20°, the impregnated fabrics were assembled and subjected 3 hrs. to 370° at 15 kg./cm.2 to give a laminate with an adhesive strength of 40 kg./mm.2 II was condensed similarly with N,N'-bis[3-(phenoxycarbonyl)phenyl]**isophthalamide** (III) and m-bis[3-(phenoxycarbonyl)benzoylamino]benzene (IV) to give the corresponding polymers. III, m. 219°, was prepared by treating Ph m-aminobenzoate with **isophthaloyl** chloride in the presence of Et3N and AcNMe2 at 20°. IV, m. 253°, was prepared by treating I with Ph 3-(chloroformyl)benzoate in the presence of Et3N and AcNMe2. The polymer obtained by condensation of IV and II showed a loss of weight of 0% and 2% when heated under Ar at 350° and 400°, resp., as compared with 1.5% and 8%, resp., when heated in air.

IT **30327-93-6**
RL: USES (Uses)
(glass fiber fabric-reinforced)

RN 30327-93-6 CAPLUS
CN Benzoic acid, 3,3'-(isophthaloyldiimino)di-, diphenyl ester, polymer with 4,4'-diamino-3,3'-biphenyldiol (8CI) (CA INDEX NAME)

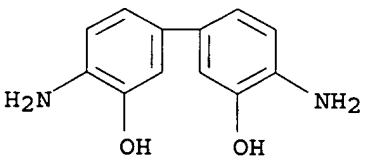
CM 1

CRN 7522-66-9
CMF C34 H24 N2 O6



CM 2

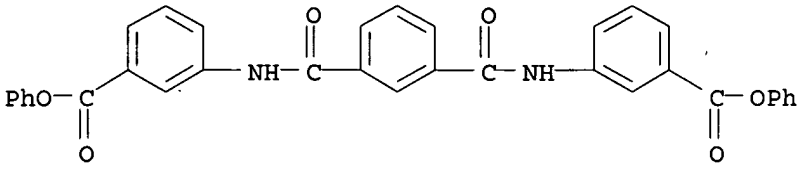
CRN 2373-98-0
CMF C12 H12 N2 O2



IT **7522-66-9P**
RL: PREP (Preparation)
(preparation of)

RN 7522-66-9 CAPLUS

CN Benzoic acid, 3,3'-(isophthaloyldiimino)di-, diphenyl ester (7CI, 8CI) (CA INDEX NAME)



L7 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1968:22392 CAPLUS
DOCUMENT NUMBER: 68:22392
TITLE: **Heterocyclic** amide polymers
INVENTOR(S): Bach, Hartwig C.; Preston, Jack
PATENT ASSIGNEE(S): Monsanto Co.
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

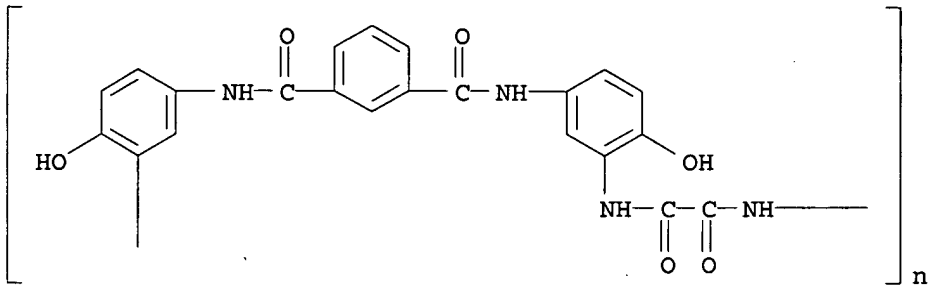
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3354120		19671121	US	19640226 <--

GI For diagram(s), see printed CA Issue.

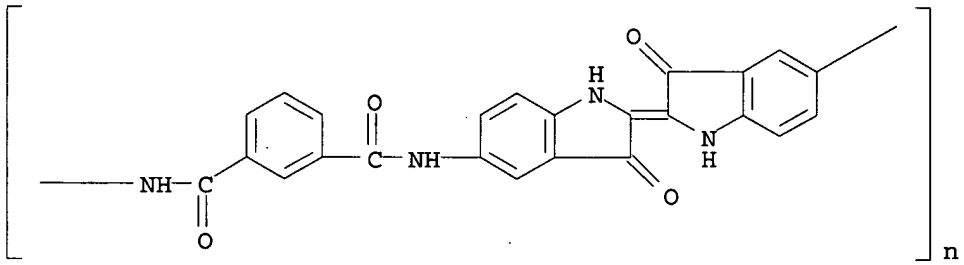
AB Polymers composed of structural units of the types HNY'NHCOYCO, II, and III, where Y and Y' are aromatic groups RXXR, where R is a hydrocarbon aromatic trivalent radical, X is a **heterocyclic** radical of 5-6 ring members containing 1-2 **hetero** atoms from As, N, **O**, P, **S**, and Se, are prepared The polymers have amide linkages and ≥1 bis- **heterocyclic** linkage fused to aromatic radicals in each repeating unit, and they are useful as fibers, filaments, films, and shaped articles. Thus, 12.7 g. oxalyl chloride in 65 ml. dry C6H6 was added to a slurry of 31 g. 2-amino-4-nitrophenol in 300 ml. C6H6, the mixture was refluxed 2 hrs., the C6H6 was distilled under reduced pressure to give 35 g. N,N'-bis(3-amino-6-hydroxyphenyl)oxamide (IV), m. 307-10° (MeCONMe2). IV (6 g.) was refluxed 2 hrs. with a solution of 23 g. SnCl2.H2O, 25ml. HCl, and 25 ml. EtOH. The mixture was cooled, filtered, the residue was washed with EtOH, and dried to give 4 g. crude diamine dihydrochloride (V). V was dropped into 200 ml. boiling water containing 30 ml. N HCl, the mixture was filtered, and the filtrate was neutralized with NH4OH to give a diamine precipitate, which was collected, washed with H2O, and dried. The diamine (0.3 g.) was dissolved in 2 ml. MeCONMe2 containing 3% LiCl, cooled to -30°, and 0.20 g. **isophthalyl** chloride added. The solution was warmed to room temperature, neutralized with 0.05 g. LiOH, and a film was cast to give III (Z = **O**, R = C6H4). The diamine (0.15 g.) in 1 ml. MeCONMe2 containing 7% LiCl was cooled to -30° and 0.14 g. 4,4'-bibenzoyl chloride was added, the mixture was warmed to room temperature, the unneutralized dope was spread onto a glass plate and baked at 140° to give a clear film that, when heated at high temps., was converted to III (Z = **O**, R = p-C6H4C6H4). Also, a polymer was prepared from 5 g. diaminoindigo with **isophthaloyl** chloride by using LiCl and MeCONMe2.

IT **31813-46-4 32027-64-8 32027-65-9**
RL: USES (Uses)
(fiber- and film-formable)

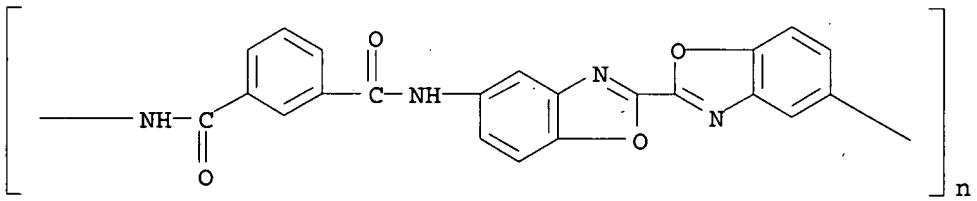
RN 31813-46-4 CAPLUS
CN Poly[imino(1,2-dioxo-1,2-ethanediyl)imino(6-hydroxy-1,3-phenylene)iminocarbonyl-1,3-phenylenecarbonylimino(4-hydroxy-1,3-phenylene)] (9CI) (CA INDEX NAME)



RN 32027-64-8 CAPLUS
CN Poly[(1,3-dihydro-3-oxo-2H-indol-5-yl-2-ylidene)(1,3-dihydro-3-oxo-2H-indol-5-yl-2-ylidene)iminocarbonyl-1,3-phenylenecarbonylimino] (9CI) (CA INDEX NAME)



RN 32027-65-9 CAPLUS
CN Poly([2,2'-bibenzoxazole]-5,5'-diyliminocarbonyl-1,3-phenylenecarbonylimino) (9CI) (CA INDEX NAME)



L7 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1966:501712 CAPLUS
DOCUMENT NUMBER: 65:101712
ORIGINAL REFERENCE NO.: 65:19035g-h,19036a-b
TITLE: Stimulation of growth by subliminal concentrations of growth-inhibiting substances
AUTHOR(S): Rauen, H. M.; Norpoth, K.
CORPORATE SOURCE: Univ. Muenster, Germany
SOURCE: Arzneimittel-Forschung (**1966**), 16(8), 1001-7
CODEN: ARZNAD; ISSN: 0004-4172
DOCUMENT TYPE: Journal
LANGUAGE: German

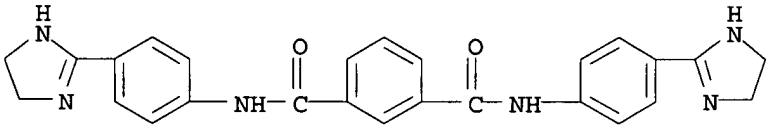
AB 2-Amino-4,6-dimethylpyrimidine at 50-200 γ/ml. stimulated growth of Neurospora crassa, but at higher concns., it was inhibitory. 4,5-Diamino-1,3-dimethyl-2,6-dihydroxypyrimidine at 10-50 γ/ml. stimulated N. crassa growth, but at 200-2000 γ/ml. inhibited it. 2-Amino-4-chloropyrimidine and 2-amino4-chloro-6-methylpyrimidine produced similar results. Actinomycin D (1-3 γ/ml.) stimulated growth of Sordaria macrospora, but at 5 γ/ml. inhibited growth. Thalidomide (≤200 γ/ml.). stimulated growth of Lactobacillus fermenti, 500-1000 γ/ml. inhibited growth. N,N-Bis(2-chloroethyl)-N', **O**-propylenephosphoric acid ester diamide and bis-(β-chloroethyl)amine-HCl at low concns. stimulated growth of yeasts, lactobacilli, and Escherichia coli, but inhibited growth at high concns. The coplanar **heterooligobases**, HR-1887, HR-2257, and HR-2074,

shifted the growth curve of Streptomyces faecalis R to the right. Sandoz SP-G (which contains podophyllotoxin β-D-benzylidene glucoside, 4'-demethylpodophyllotoxin β-D-benzylidene glucoside, and some other natural compds.), derived from rhizomes of Podophyllure emodi, did not inhibit 2 strains of Micrococcus pyrogenes, E. coli, Proteus vulgaris, Saccharomyces cerevisiae, or Amoeba proteus; it slightly inhibited L. casei, L. arabinosus, L. mesenteroides, and Bacillus cereus; but it greatly inhibited growth of L. fermenti and stimulated growth of **S**. faecalis. Sandoz SP-I (podophyllic acid ethyl hydrazide) had a much weaker effect on L. fermenti, but a similar effect on L. casei and B. cereus compared with Sandoz SP-G. Sandoz SP-I did not influence growth of **S**. faecalis, L. arabinosus or L. mesenteroides. Growth of Jensen sarcoma transplanted on the chorioallantois of hatched hen eggs was stimulated by 20 γ of HR-2074/egg and was inhibited by 500 γ to 1 mg./egg. Sandoz SP-G (100 γ/egg) stimulated the growth of transplanted Voshida sarcoma, whereas 1 mg./egg inhibited growth. Sandoz SP-I produced similar results with Jensens sarcoma and Walker carcinosarcoma. Verrucarin A isolated from Myrothecium verrucaria and anguidin at 1 mg./egg inhibited growth of Yoshida sarcoma but stimulated growth of DS-carcinosarcoma. Low doses of cytostatics can stimulate microbial and tumor growth. 29 references.

IT **5262-40-8**, **Isophthalanilide**, 4',4''-di-2-imidazolin-2-yl-, dihydrochloride
(Streptomyces faecalis growth response to)

RN 5262-40-8 CAPLUS

CN 1,3-Benzenedicarboxamide, N,N'-bis[4-(4,5-dihydro-1H-imidazol-2-yl)phenyl]-, dihydrochloride (9CI) (CA INDEX NAME)



●2 HCl

L7 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1962:411370 CAPLUS

DOCUMENT NUMBER: 57:11370

ORIGINAL REFERENCE NO.: 57:2373c-i,2374a-i,2375a-c,2376a-c

TITLE: Yellow color formers for color development

INVENTOR(S): Weissberger, Arnold; Kibler, Charles Jacob

PATENT ASSIGNEE(S): Eastman Kodak Co.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 603213		19610515	BE	19610428 <--

AB Yellow acetoacetanilide color couplers of the general formula R'C(**O**)CH(A)C(**O**)NHR was prepared; R' is an alkyl, cycloalkyl, or bicycloalkyl group with 4-31 C atoms or the group XYZC wherein X stands for C1-18 alkyl or alkoxy radicals, Y and Z are primary secondary, or tertiary C1-18 alkyl radicals (X and Y together having 3-30 C atoms), A is H, Cl, or SA' where A' is an aryl or **heterocyclic** group, R is an aryl group, and the C atom of R' adjacent to the carbonyl group is a tertiary C atom. Me3CCOCH2CO2Et (I) and PhNH2 (1 mole each) in 1200 ce. xylene refluxed 1 hr. and cooled deposited Me3CCOCH2CONHPh (II), m. 77-9°. Similarly were prepared the following Me3CCOCH2CONHAr from the corresponding amines (Ar and m.p. given): **o**-ClC6H4 48-50°; **o**-Me2NC6H4 68-70°, 4-[N-(3-phenylpropyl)-N-(p-tolyl)carbamoylmethoxylphenyl 118-20°, 4-[N-(3-phenylpropyl)-N-(p-tolyl)sulfamoy]phenyl 158-9°, 2-(,4-di-tert-amylphenoxy)-5-

morpholinocarbonylphenyl 178-80°. Et α-(α,α-dimethylvaleryl)acetate and o-ClC6H4NH2 (equimolar amts.) gave similarly α-(α,α-dimethylvaleryl)-o-chloroacetanilide, and Me α-(α,α-dimethylstearoyl)acetate with PhNH2 yielded α-(α,α-dimethylstearoyl)acetanilide (III). The acid chloride (847 g.) of 2,4-(EtMe2C)2C6H3OCH2CO2H (IV) added with stirring to 677 g. NaOAc, 8 l. AcOH, and 448 g. 4,3Cl(O2N)C6H3NH2 (V), stirred 5 hrs. at room temperature, and poured into 20 l. H2O gave 830 g. 4-chloro-3-nitroacetanilide (VI) of V, m. 157-8° (EtOH). VI (44.6 g.) in 200 cc. absolute EtOH hydrogenated 1-1.5 hrs. at 3.5 atmospheric over Raney Ni, heated to boiling, filtered, and diluted with 1500 cc. H2O gave 32 g. 3-NH2 analog (VII) of VI, m. 117-18% VII (318 g.) in 2 l. xylene refluxed 2.5 hrs. with 125 g. I, filtered into ligroine, and cooled gave α-pivaloyl-5-[α-(2,4-di-tert-amylphenoxy)acetamido]-2-chloroacetanilide (VIII), m. 139-40 (EtOH). Similarly were prepared the following compds. (m.p. and the reactants and their g.-amts. used given): o-methoxyacetanilide analog of VIII 106-9°, I, -, VII, -; o-chloroacetanilide analog of VIII, 98.5-100° (EtOH), I, -, 5- [4 - (2,4 - di - tert - amylphenoxy)butyrylamino] - 2 - chloroaniline (IX), -; α-pivaloyl-4-[α-(2,4-di-tert-amylphenoxy)acetamido]acetanilide , 175-7°, I, -, 4-[α-(2,4-di-tertamylphenoxy)acetamido]anilin e, -; α-chloropivaloyl-5[4 - (2,4 - di - tert - amylphenoxy)butyrylamino] - 2 - chloro- acetanilide (X), 95-9°, IX, 13.35, ClCH2CMe2CO2Me, 5.78; α-(α-methoxyisobutyryl) analog of X, 78-89° (hexaneEtOH), Me α-(α-methoxyisobutyryl)acetate, -, IX, -; α-pivaloyl- 5 - (p - toluenesulfonamido) -2 - chloroacetanilide, 190-2.5° (EtOH), I, -, 2,5-Cl(p-MeC6H4SO2NH)C6H3NH2, -; α-pivaloyl-2-(2,4-di-tert-amylphenoxy)-5-(3,5-dicarbomethoxyphenylcarbamoyl)acetanilide, 144-6°, 2-(2,4-ditert-amylphenoxy)-5-(3,5-dicarbomethoxyphenylcarbamoyl)aniline, 5.6, I, 5.7; α-pivaloyl-5-[α-(2,4-di-tert-amylphenoxy)caproylamino]-2-chloroacetanilide, -(oil), I, -, 5-[α-(2,4-di-tert-amylphenoxy)caproylamino]-2-chloroaniline-; α-chloropivaloyl-5-[α-(2,4-di-tert - amylphenoxy)acetamido]2-chloroacetanilide, 62-109° (hexane), 5-[α-(2,4-di-tert- amylphenoxy)acetamido]-2-chloroaniline, -, Me α-(chloropivaloyl)acetate, -; α-(α-methyl-α-butylarachidoyl)-2chloroacetanilide, Me α-(α-methyl-α-butylarachidoyl)acetate, -, o-ClC6H4NH2, -; α-(α,α-diamylheptanoyl)-5heptanoylamino-2-fiuoroacetanilide, Me α-(α,α-diamylheptanoyl)acetate, -, 2,5-F(C6H13CONH)C6H3H2, -. VIII (25 g.) in 150 cc. CHCl3 treated with cooling and stirring with 6.48 g. SO2Cl2 in 25 cc. CHCl3, stirred 0.75 hrs. at room temperature, and evaporated gave 21.3 g. α-pivaloyl-α-chloro-5-[α-(2,4-di-tert- amylphenoxy)acetamido] - 2 - chloroacetanilide, m. 101-3° (hexane). Me α-(α-methoxyisobutyryl)acetate (4.18 g.) and 10.0 g. VII in 75 cc. xylene refluxed gave 9.0 g. α-(α-methoxyisobutyryl)-5-[α-(2,4-ditert-amylphenoxy)acetamido]-2-chloroacetanilide (X), m. 106-9° (hexane-EtOH). VII (7.67 g.) and 3.46 g. Me α-(methoxypivaloyl)acetate (XI) in 50 co. xylene refluxed gave similarly 7.72 g. α-(methoxypivaloyl) analog (XII) of XI, m. 108-10° (hexane-EtOH). XII treated with 1.1 equivalent SO2Cl2 in CHCl3 gave the α-Cl derivative of XII, m. 88-92° (hexane). o-ClC6H4NH2 (7.82 g.) and 11.3 g. XI in 150 cc. xylene refluxed gave 11 g. α-(methoxypivaloyl)-2-chloroacetanilide (XIII), prisms, m. 50-6° (petr. ether-Et2O). XIII (10.85 g.) and 5.54 g. SO2Cl2 in CHCl3 yielded 10.5 g. α-methoxypivaloyl-α,2-dichloroacetanilide, prisms, m. 90-4° (EtOH - hexane). 2,4-(EtMe2C)2C6H3OCH2CH2CH2COCl (180 g.) added with stirring to 107.5 g. NaOAc, 96.0 g. V, and 1500 cc. AcOH, stirred 0.75 hrs. at room temperature, kept overnight, and poured into H2O gave 4-(2,4-di-tert-amylphenoxy)-4-chloro-3-nitrobutyranilide, m. 86-91°, which hydrogenated in the usual manner over Raney Ni gave from 47.5 g. nitro compound 36 g. IX, m. 113-15° (cyclohexane). IX and I refluxed in xylene gave α-pivaloyl-5-[4-(2,4-di - tert-amylphenoxy)butyrylamino] - 2 - chloroacetanilide (XIV), m. 55-60° (MeOH). Dry Cl passed through 8.9 g. 2-mercapto-5-phenyl-1,3,4-oxadiazole in 75 cc. CCl4 and evaporated in

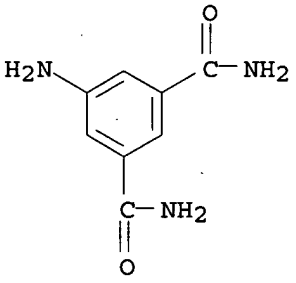
vacuo, the residue dissolved in 770 cc. PhMe, treated with 22.5 g. XIV, heated 4 hrs. at 75°, concentrated in vacuo, and extracted with MeOH, and the residue from the extract dissolved in AcOH and diluted with H2O gave α-pivaloylα-(5-phenyl-1,3,4-oxadiazol-2-ylthio)-5-[4-(2,4-di-tert - amylphenoxy)butyrylamino]-2-chloroacetanilide, m. 107-12°. 3,5-(MeO2C)2C6H3NH2 (XlVa) (40 g.), 64 g. I, 1 g. NaOAc, and 1 l. xylene refluxed 2 hrs., the liberated EtOH distilled off, and the mixture diluted with ligroine, concentrated, and cooled gave 3,5-(MeO2C)2C6H3NHCOCH2COCMe3 (XV), m. 110-12° (aqueous MeOH). (m-C18H37NHCOC6H4S)2 (XVI) (16.2 g.) added at 0° to 250 cc. CCl4 previously saturated with Cl, stirred 1.5 hrs. at 25-35° concentrated in vacuo, dissolved in 400 cc. CCl4 added to 13.4 g. XV in 100 cc. CCl4, refluxed 2.5 hrs., cooled to room temperature, and filtered yielded 16.8 g. α-pivaloyl α-(m-octadecylcarbamoylphenylthio)acetanilide (XVII), m. 120-1° (CCl4). XVI (10.0 g.) and 10.0 g. XV in CCl4 gave similarly the 3,5-dicarbomethoxyacetanilide analog (XVIII) of XVII, m. 113.5-15° (CCl4). (m-C14H29NHCOC6H4S)2 (11.0 g.) and 10.0 g. XV gave similarly 8.5 g. m-C14H29NHCOC6H4 analog (XIX) of XVIII, m. 134-5° (CCl4). XV (17 g.) in 200 cc. EtOH added to 7 g. NaOH in 100 cc. H2O, heated 1 hr. at 55-60°, poured into 60 cc. AcOH, cooled, and filtered, and the residue extracted with EtOH and Et2O, the residue from the extract dissolved in EtOH, and the solution poured into ice and AcOH precipitated 3,5-(HO2C)2C6H3NHOCCH2COCMe3, m. 271.5-72°. XVIII saponified and acidified gave 3,5-di-CO2H analog (XX) of XVIII, m. 165-9°. XIX (4.25 g.) gave similarly 3.5 g. m-C14H29NHCOC6H4S analog of XX, m. 170-3°. 3,5(C12H25O2C)2C6H3NH2 (6.27 g..) and 2.06 g. Me3CCOCH2CO2Me (XXI) in 45 cc. xylene refluxed and worked up in the usual manner gave 4.3 g. 3,5-(C12H25O2C)2C6H3NHCOCH2COCMe3, m. 60-4°. 5,1,3-O2NC6H3(CO2H)2 (XXII) (50 g.) and 250 cc. SOCl2 refluxed overnight and evaporated in vacuo, the residue extracted with dry Et2O, and the extract added dropwise with stirring to dry **NH**, in 250 cc. dry Et2O and filtered gave 28 g. 3,5-(H2NOC)2C6H3NO2 (XXIII). XXIII (20 g.) in absolute EtOH hydrogenated at 50 lb. initial pressure over Pd-C gave 15.8 g. 3,5-(H2NOC)2CoH3NH2 (XXIV), yellowish brown, m. 250-3°. 3,5-(EtNHOC)2C6H3NO2 (20 g.) (from XXII and EtNH2) in EtOH hydrogenated similarly gave 18.5 g. 3,5-(EtNHOC)2C6H3NH2 (XXV), m. 230-4°. XXI (8.0 g.) added to 8.8 g. XXIV and 0.5 g. NaOAc in 500 cc. xylene, refluxed overnight with the removal of 10 co. distillate, and cooled gave 3,5-(H2NOC)2C6H3NHCOCH2COCMe3 (XXVI), m. 241-3°. I and XXV condensed in the usual manner gave 3,5-(EtNHOC)2C6H3NHCOCH2COCMe3, m. 223.5-25° (ligroine). The chloride of XXII treated with C8H18,NH2, and the product hydrogenated in the usual manner over Pd-C gave 3,5-(C8H17NHOC)2C6H3NH2 which with I in xylene yielded in the usual manner 3,5-(C8H17NHOC)2C6H3NHCOCH2COCMe3, m. 80-90°. II (44 g.) added slowly at 8° to 350 cc. ClSO3H, stirred 2 hrs. with cooling, kept overnight, poured onto ice, and extracted with EtOAc yielded 31 g. p-ClO2SC6H4NHOCCH2COCMe3 (XXVII), pale yellow solid. XXVII 1 in MeOH 10 parts refluxed 3.5 hrs., filtered, and evaporated, and the residue dissolved in H2O and treated with saturated aqueous KOAc precipitated the p-SO33K analog of XXVII, decompose 270° (without melting). XVI (40 g.) in CCl4 treated with Cl and added to 31 g. XXVII, the resulting α-(m-C18H37NHOCC6H4S) derivative (XXVIII) of XXVII dissolved in 700 cc. MeOH, refluxed 3.5 hrs., filtered, concd, to half-volume, and treated with 10 g. KOAc yielded the p-SO3K analog of XXVIII, white solid. III was converted similarly to α-(α,α-dimethylstearoyl)-4-chlorosulfonylacetanilide and further to the p-SO3K analog. Me α-(α-methyl-α-nonyl)undecanoylacetate and XIVa gave by the method used for the preparation of XV α-(α-methyl-α-nonyl)undecanoyl-3,5-dicarbomethoxyacetanilide which was saponified in the usual manner to the 3,5-di-CO2H analog. 7,7-Dimethylnorbornane-1-carboxylic acid (XXIX) (15 g.) and 25 cc. SOCl2 refluxed 0.5 hr. and evaporated, and the residue refluxed 15 min. with 10 cc. absolute EtOH in 50 cc. dry Et2O and worked up gave 11 g. Et ester (XXX) of XXIX, b18 103-4°. MeCN (4.1 g.) in 15 cc. Et2O added to NaNH2 from 2.3 g. Na in 200 cc. liquid NH3, the mixture treated after 5 min. with 9.8 g. XXX in 15 cc. Et2O and after 30 min. with 200 cc. Et2O, warmed to expel the excess NH3, and poured into 500 cc. H2O, and the aqueous phase acidified with AcOH and extracted with Et2O yielded 7,7-dimethyl-1-cyanoacetylnorbornane (XXXI), m. 58-60° (Et2O-petr. ether). XXXI (6.0 g.) in 50 cc. dry MeOH saturated with dry HCl, kept 15 hrs. at room temperature, and evaporated, the residue refluxed 2 hrs. with 35 cc. C6H6

and 35 cc. H2O, and the organic layer worked up gave 3.6 g. Me α-(7,7-dimethylnorbornane-1-carbonyl)acetate (XXXII), b0.3 101-5°. XXXII (3.4 g.), 3.1 g. XIVa 0.t g. NaOAc, and 80 cc. xylene processed in the usual manner gave 4.5 g. α-(7,7-dimethylnorbornane - 1 - carbonyl) - 3,5 - dicarbomethoxyacetanilide (XXXIII), m. 156-8° (MeCN). XXXIII (4.0 g.) and 4.05 g. XVI gave in the usual manner 5.1 g. α-(m-C18H37OCNHC6H4S) derivative (XXXIV) of XXXIII, m. 129-31° (CCl4). XXXIV (4.1 g.), 60 cc. EtOH, and 8.4 cc. 2N NaOH heated 45 min. at 45-50°, filtered, and acidified with HCl gave 2.5 g. 3,5-di-CO2H analog of XXXIV, m. 126-9° (AcOH). XXXII and IX (equimolar amts.) gave in the usual manner α-(7,7-dimethylnorbornane- 1 - carbonyl) - 5 - [4 -(2,4- di - tertamylphenoxy)butyrylamino]-2-chloroacetanilide (XXXV), m. 99-105° (MeOH). IX (13.35 g.) and 6.53 g. Me 1-methylcyclohexane-1-carbonylacetate refluxed in 100 cc. xylene gave 10.5 g. α-(1-methylcyclohexane-1-carbonyl) analog of XXXV, 113-16° (EtOAc-hexane).

IT **28321-49-5**, **Isophthalamide**, 5-amino- **41616-00-6**, **Isophthalamide**, 5-amino-N,N'-diethyl- **92650-23-2**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)- **95424-60-5**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-diethyl- **96467-40-2**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-dioctyl-
(preparation of)

RN 28321-49-5 CAPLUS

CN 1,3-Benzenedicarboxamide, 5-amino- (9CI) (CA INDEX NAME)



RN 41616-00-6 CAPLUS

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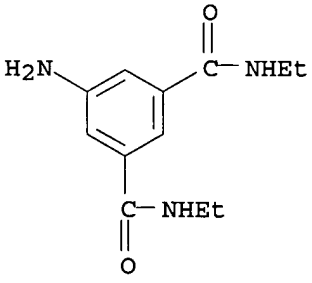

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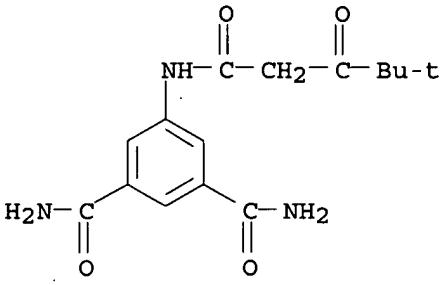

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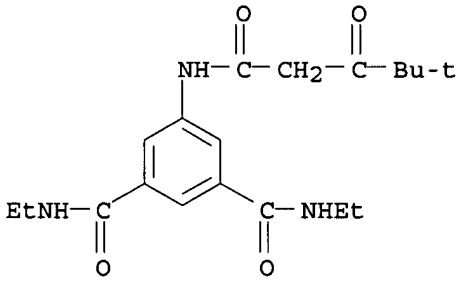
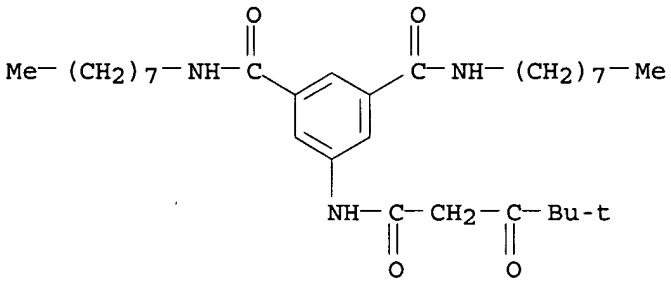


RN 96467-40-2 CAPLUS
CN Isophthalamide, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-dioctyl- (7CI) (CA INDEX NAME)



L7 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1962:411369 CAPLUS
DOCUMENT NUMBER: 57:11369
ORIGINAL REFERENCE NO.: 57:2373c-i,2374a-i,2375a-c,2376a-c
TITLE: Yellow color formers for color development
INVENTOR(S): Weissberger, Arnold; Kibler, Charles Jacob
PATENT ASSIGNEE(S): Eastman Kodak Co.
SOURCE: 28 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

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DE 1124356		19620222	DE	<--
GB 980507			GB	
PRIORITY APPLN. INFO.:			US	19600428

AB Yellow acetoacetanilide color couplers of the general formula R'C(O)CH(A)C(O)NHR was prepared; R' is an alkyl, cycloalkyl, or bicycloalkyl group with 4-31 C atoms or the group XYZC wherein X stands for C1-18 alkyl or alkoxy radicals, Y and Z are primary secondary, or tertiary C1-18 alkyl radicals (X and Y together having 3-30 C atoms), A is

H, Cl, or SA' where A' is an aryl or **heterocyclic** group, R is an aryl group, and the C atom of R' adjacent to the carbonyl group is a tertiary C atom. Me3CCOCH2CO2Et (I) and PhNH2 (1 mole each) in 1200 ce. xylene refluxed 1 hr. and cooled deposited Me3CCOCH2CONHPh (II), m. 77-9°. Similarly were prepared the following Me3CCOCH2CONHAr from the corresponding amines (Ar and m.p. given): **o**-ClC6H4 48-50°; **o**-Me2NC6H4 68-70°, 4-[N-(3-phenylpropyl)-N-(p-tolyl)carbamoylmethoxylphenyl 118-20°, 4-[N-(3-phenylpropyl)-N-(p-tolyl)sulfamoy]phenyl 158-9°, 2-(,4-di-tert-amylphenoxy)-5-morpholinocarbonylphenyl 178-80°. Et α-(α,α-dimethylvaleryl)acetate and **o**-ClC6H4NH2 (equimolar amts.) gave similarly α-(α,α-dimethylvaleryl)- **o** -chloroacetanilide, and Me α-(α,α-dimethylstearoyl)acetate with PhNH2 yielded α-(α,α-dimethylstearoyl)acetanilide (III). The acid chloride (847 g.) of 2,4-(EtMe2C)2C6H3OCH2CO2H (IV) added with stirring to 677 g. NaOAc, 8 l. AcOH, and 448 g. 4,3Cl(O2N)C6H3NH2 (V), stirred 5 hrs. at room temperature, and poured into 20 l. H2O gave 830 g. 4-chloro-3-nitroacetanilide (VI) of V, m. 157-8° (EtOH). VI (44.6 g.) in 200 cc. absolute EtOH hydrogenated 1-1.5 hrs. at 3.5 atmospheric over Raney Ni, heated to boiling, filtered, and diluted with 1500 cc. H2O gave 32 g. 3-NH2 analog (VII) of VI, m. 117-18% VII (318 g.) in 2 l. xylene refluxed 2.5 hrs. with 125 g. I, filtered into ligroine, and cooled gave α-pivaloyl-5-[α-(2,4-di-tert-amylphenoxy)acetamido]-2-chloroacetanilide (VIII), m. 139-40 (EtOH). Similarly were prepared the following compds. (m.p. and the reactants and their g.-amts. used given): **o**-methoxyacetanilide analog of VIII 106-9°, I, -, VII, -; **o**-chloroacetanilide analog of VIII, 98.5-100° (EtOH), I, -, 5- [4 - (2,4 - di - tert - amylphenoxy)butyrylamino] - 2 - chloroaniline (IX), -; α-pivaloyl-4-[α-(2,4-di-tert-amylphenoxy)acetamido]acetanilide , 175-7°, I, -, 4-[α-(2,4-di-tertamylphenoxy)acetamido]anilin e, -; α-chloropivaloyl-5[4 - (2,4 - di - tert - amylphenoxy)butyrylamino] - 2 - chloro- acetanilide (X), 95-9°, IX, 13.35, ClCH2CMe2CO2Me, 5.78; α-(α-methoxyisobutyryl) analog of X, 78-89° (hexaneEtOH), Me α-(α-methoxyisobutyryl)acetate, -, IX, -; α-pivaloyl- 5 - (p - toluenesulfonamido) -2 - chloroacetanilide, 190-2.5° (EtOH), I, -, 2,5-Cl(p-MeC6H4SO2NH)C6H3NH2, -; α-pivaloyl-2-(2,4-di-tert-amylphenoxy)-5-(3,5-dicarbomethoxyphenylcarbamoyl)acetanilide, 144-6°, 2-(2,4-ditert-amylphenoxy)-5-(3,5-dicarbomethoxyphenylcarbamoyl)aniline, 5.6, I, 5.7; α-pivaloyl-5-[α-(2,4-di-tert-amylphenoxy)caproylamino]-2-chloroacetanilide, -(oil), I, -, 5-[α-(2,4-di-tert-amylphenoxy)caproylamino]-2-chloroaniline-; α-chloropivaloyl-5-[α-(2,4-di-tert - amylphenoxy)acetamido]2-chloroacetanilide, 62-109° (hexane), 5-[α-(2,4-di-tert- amylphenoxy)acetamido]-2-chloroaniline, -, Me α-(chloropivaloyl)acetate, -; α-(α-methyl-α-butylarachidoyl)-2chloroacetanilide, Me α-(α-methyl-α-butylarachidoyl)acetate, -, **o**-ClC6H4NH2, -; α-(α,α-diamylheptanoyl)-5heptanoylamino-2-fiuoroacetanilide, Me α-(α,α-diamylheptanoyl)acetate, -, 2,5-F(C6H13CONH)C6H3H2, -. VIII (25 g.) in 150 cc. CHCl3 treated with cooling and stirring with 6.48 g. SO2Cl2 in 25 cc. CHCl3, stirred 0.75 hrs. at room temperature, and evaporated gave 21.3 g. α-pivaloyl-α-chloro-5-[α-(2,4-di-tert- amylphenoxy)acetamido] - 2 - chloroacetanilide, m. 101-3° (hexane). Me α-(α-methoxyisobutyryl)acetate (4.18 g.) and 10.0 g. VII in 75 cc. xylene refluxed gave 9.0 g. α-(α-methoxyisobutyryl)-5-[α-(2,4-ditert-amylphenoxy)acetamido]-2-chloroacetanilide (X), m. 106-9° (hexane-EtOH). VII (7.67 g.) and 3.46 g. Me α-(methoxypivaloyl)acetate (XI) in 50 co. xylene refluxed gave similarly 7.72 g. α-(methoxypivaloyl) analog (XII) of XI, m. 108-10° (hexane-EtOH). XII treated with 1.1 equivalent SO2Cl2 in CHCl3 gave the α-Cl derivative of XII, m. 88-92° (hexane). **o** -ClC6H4NH2 (7.82 g.) and 11.3 g. XI in 150 cc. xylene refluxed gave 11 g. α-(methoxypivaloyl)-2-chloroacetanilide (XIII), prisms, m. 50-6° (petr. ether-Et2O). XIII (10.85 g.) and 5.54 g. SO2Cl2 in CHCl3 yielded 10.5 g. α-methoxypivaloyl-α,2-dichloroacetanilide, prisms, m. 90-4° (EtOH - hexane). 2,4-

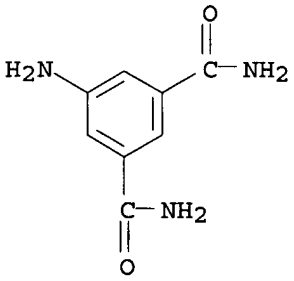
(EtMe2C)2C6H3OCH2CH2CH2COCl (180 g.) added with stirring to 107.5 g. NaOAc, 96.0 g. V, and 1500 cc. AcOH, stirred 0.75 hrs. at room temperature, kept overnight, and poured into H2O gave 4-(2,4-di-tert-amylphenoxy)-4-chloro-3-nitrobutyranilide, m. 86-91°, which hydrogenated in the usual manner over Raney Ni gave from 47.5 g. nitro compound 36 g. IX, m. 113-15° (cyclohexane). IX and I refluxed in xylene gave α-pivaloyl-5-[4-(2,4-di - tert-amylphenoxy)butyrylamino] - 2 - chloroacetanilide (XIV), m. 55-60° (MeOH). Dry Cl passed through 8.9 g. 2-mercapto-5-phenyl-1,3,4-oxadiazole in 75 cc. CCl4 and evaporated in vacuo, the residue dissolved in 770 cc. PhMe, treated with 22.5 g. XIV, heated 4 hrs. at 75°, concentrated in vacuo, and extracted with MeOH, and the residue from the extract dissolved in AcOH and diluted with H2O gave α-pivaloylα-(5-phenyl-1,3,4-oxadiazol-2-ylthio)-5-[4-(2,4-di-tert - amylphenoxy)butyrylamino]-2-chloroacetanilide, m. 107-12°. 3,5-(MeO2C)2C6H3NH2 (XlVa) (40 g.), 64 g. I, 1 g. NaOAc, and 1 l. xylene refluxed 2 hrs., the liberated EtOH distilled off, and the mixture diluted with ligroine,, concentrated, and cooled gave 3,5-(MeO2C)2C6H3NHCOCH2COCMe3 (XV), m. 110-12° (aqueous MeOH). (m-C18H37NHCOC6H4S)2 (XVI) (16.2 g.) added at 0° to 250 cc. CCl4 previously saturated with Cl, stirred 1.5 hrs. at 25-35° concentrated in vacuo, dissolved in 400 cc. CCl4 added to 13.4 g. XV in 100 cc. CCl4, refluxed 2.5 hrs., cooled to room temperature, and filtered yielded 16.8 g. α-pivaloyl α-(m-octadecylcarbamoylphenylthio)a cetanilide (XVII), m. 120-1° (CCl4). XVI (10.0 g.) and 10.0 g. XV in CCl4 gave similarly the 3,5-dicarbomethoxyacetanilide analog (XVIII) of XVII, m. 113.5-15° (CCl4). (m-C14H29NHCOC6H4S)2 (11.0 g.) and 10.0 g. XV gave similarly 8.5 g. m-C14H29NHCOC6H4 analog (XIX) of XVIII, m. 134-5° (CCl4). XV (17 g.) in 200 cc. EtOH added to 7 g. NaOH in 100 cc. H2O, heated 1 hr. at 55-60°, poured into 60 cc. AcOH, cooled, and filtered, and the residue extracted with EtOH and Et2O, the residue from the extract dissolved in EtOH, and the solution poured into ice and AcOH precipitated 3,5-(HO2C)2C6H3NHOCCH2COCMe3, m. 271.5-72°. XVIII saponified and acidified gave 3,5-di-CO2H analog (XX) of XVIII, m. 165-9°. XIX (4.25 g.) gave similarly 3.5 g. m-C14H29NHCOC6H4S analog of XX, m. 170-3°. 3,5(C12H25O2C)2C6H3NH2 (6.27 g..) and 2.06 g. Me3CCOCH2CO2Me (XXI) in 45 cc. xylene refluxed and worked up in the usual manner gave 4.3 g. 3,5-(C12H25O2C)2C6H3NHCOCH2COCMe3, m. 60-4°. 5,1,3-O2NC6H3(CO2H)2 (XXII) (50 g.) and 250 cc. SOCl2 refluxed overnight and evaporated in vacuo, the residue extracted with dry Et2O, and the extract added dropwise with stirring to dry **NH**, in 250 cc. dry Et2O and filtered gave 28 g. 3,5-(H2NOC)2C6H3NO2 (XXIII). XXIII (20 g.) in absolute EtOH hydrogenated at 50 lb. initial pressure over Pd-C gave 15.8 g. 3,5-(H2NOC)2CoH3NH2 (XXIV), yellowish brown, m. 250-3°. 3,5-(EtNHOC)2C6H3NO2 (20 g.) (from XXII and EtNH2) in EtOH hydrogenated similarly gave 18.5 g. 3,5-(EtNHOC)2C6H3NH2 (XXV), m. 230-4°. XXI (8.0 g.) added to 8.8 g. XXIV and 0.5 g. NaOAc in 500 cc. xylene, refluxed overnight with the removal of 10 co. distillate, and cooled gave 3,5-(H2NOC)2C6H3NHCOCH2COCMe3 (XXVI), m. 241-3°. I and XXV condensed in the usual manner gave 3,5-(EtNHOC)2C6H3NHCOCH2COCMe3, m. 223.5-25° (ligroine). The chloride of XXII treated with C8H18,NH2, and the product hydrogenated in the usual manner over Pd-C gave 3,5-(C8H17NHOC)2C6H3NH2 which with I in xylene yielded in the usual manner 3,5-(C8H17NHOC)2C6H3NHCOCH2COCMe3, m. 80-90°. II (44 g.) added slowly at 8° to 350 cc. ClSO3H, stirred 2 hrs. with cooling, kept overnight, poured onto ice, and extracted with EtOAc yielded 31 g. p-ClO2SC6H4NHOCCH2COCMe3 (XXVII), pale yellow solid. XXVII 1 in MeOH 10 parts refluxed 3.5 hrs., filtered, and evaporated, and the residue dissolved in H2O and treated with saturated aqueous KOAc precipitated the p-SO33K analog of XXVII, decompose 270° (without melting). XVI (40 g.) in CCl4 treated with Cl and added to 31 g. XXVII, the resulting α-(m-C18H37NHOCC6H4S) derivative (XXVIII) of XXVII dissolved in 700 cc. MeOH, refluxed 3.5 hrs., filtered, concd, to half-volume, and treated with 10 g. KOAc yielded the p-SO3K analog of XXVIII, white solid. III was converted similarly to α-(α,α-dimethylstearoyl)-4-chlorosulfonylacetanilide and further to the p-SO3K analog. Me α-(α-methyl-α-nonyl)undecanoylacetate and XIVa gave by the method used for the preparation of XV α-(α-methyl-α-nonyl)undecanoyl-3,5-dicarbomethoxyacetanilide which was saponified in the usual manner to the 3,5-di-CO2H analog. 7,7-Dimethylnorbornane-1-carboxylic acid (XXIX) (15 g.) and 25 cc. SOCl2 refluxed 0.5 hr. and evaporated, and the residue refluxed

15 min. with 10 cc. absolute EtOH in 50 cc. dry Et2O and worked up gave 11 g. Et ester (XXX) of XXIX, b18 103-4°. MeCN (4.1 g.) in 15 cc. Et2O added to NaNH2 from 2.3 g. Na in 200 cc. liquid NH3, the mixture treated after 5 min. with 9.8 g. XXX in 15 cc. Et2O and after 30 min. with 200 cc. Et2O, warmed to expel the excess NH3, and poured into 500 cc. H2O, and the aqueous phase acidified with AcOH and extracted with Et2O yielded 7,7-dimethyl-1-cyanoacetylnorbornane (XXXI), m. 58-60° (Et2O-petr. ether). XXXI (6.0 g.) in 50 cc. dry MeOH saturated with dry HCl, kept 15 hrs. at room temperature, and evaporated, the residue refluxed 2 hrs. with 35 cc. C6H6 and 35 cc. H2O, and the organic layer worked up gave 3.6 g. Me α-(7,7-dimethylnorbornane-1-carbonyl)acetate (XXXII), b0.3 101-5°. XXXII (3.4 g.), 3.1 g. XIVa 0.t g. NaOAc, and 80 cc. xylene processed in the usual manner gave 4.5 g. α-(7,7-dimethylnorbornane - 1 - carbonyl) - 3,5 - dicarbomethoxyacetanilide (XXXIII), m. 156-8° (MeCN). XXXIII (4.0 g.) and 4.05 g. XVI gave in the usual manner 5.1 g. α-(m-C18H37OCNHC6H4S) derivative (XXXIV) of XXXIII, m. 129-31° (CCl4). XXXIV (4.1 g.), 60 cc. EtOH, and 8.4 cc. 2N NaOH heated 45 min. at 45-50°, filtered, and acidified with HCl gave 2.5 g. 3,5-di-CO2H analog of XXXIV, m. 126-9° (AcOH). XXXII and IX (equimolar amts.) gave in the usual manner α-(7,7-dimethylnorbornane- 1 - carbonyl) - 5 - [4 -(2,4- di - tertamylphenoxy)butyrylamino]-2-chloroacetanilide (XXXV), m. 99-105° (MeOH). IX (13.35 g.) and 6.53 g. Me 1-methylcyclohexane-1-carbonylacetate refluxed in 100 cc. xylene gave 10.5 g. α-(1-methylcyclohexane-1-carbonyl) analog of XXXV, 113-16° (EtOAc-hexane).

IT **28321-49-5**, **Isophthalamide**, 5-amino- **41616-00-6**, **Isophthalamide**, 5-amino-N,N'-diethyl- **92650-23-2**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)- **95424-60-5**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-diethyl- **96467-40-2**, **Isophthalamide**, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-dioctyl- (preparation of)

RN 28321-49-5 CAPLUS

CN 1,3-Benzenedicarboxamide, 5-amino- (9CI) (CA INDEX NAME)



RN 41616-00-6 CAPLUS

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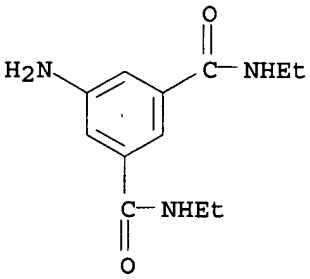

RN 92650-23-2 CAPLUS

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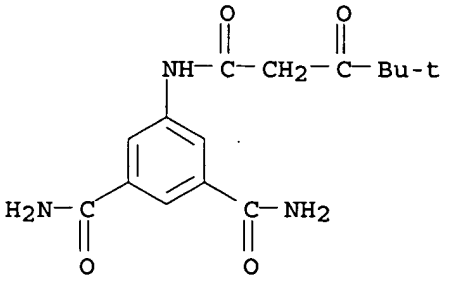

RN 95424-60-5 CAPLUS
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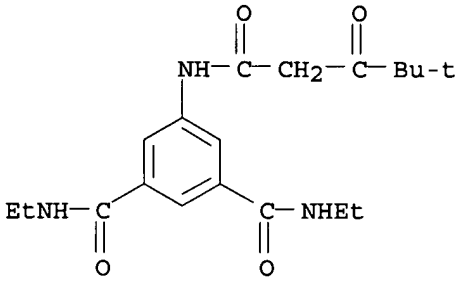
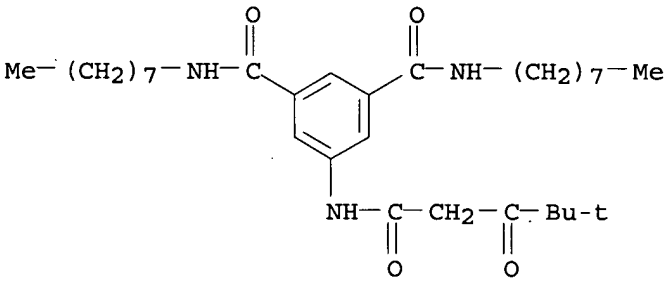


RN 96467-40-2 CAPLUS
CN Isophthalamide, 5-(4,4-dimethyl-3-oxovaleramido)-N,N'-dioctyl- (7CI) (CA INDEX NAME)



L7 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1950:46888 CAPLUS
DOCUMENT NUMBER: 44:46888
ORIGINAL REFERENCE NO.: 44:8944b-e
TITLE: Organic amides
INVENTOR(S): Grimmel, Harry W.; Guenther, Alfred
PATENT ASSIGNEE(S): General Aniline & Film Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2508860		19500523	US	<--

AB Organic amides are produced by condensing organic phosphazo compds. with organic carboxylic acids, thus: RN:PNHR + 2R'CO2H → 2R'CONHR + HPO2, where R and R' are aliphatic, alicyclic, aromatic, or **heterocyclic** groups. EtCO2H 7.4 and PhMe 180 containing the product from C8H17NH2 32.3 and POCl3 6.9 are refluxed 1-2 hrs. with agitation, treated with 10% Na2CO3 100, and steam-distilled to give EtCONHC8H17 13.8 parts (73%), b1.5 120-2°. p-O2NC6H4CO2H 33.4 and PhMe 170 containing 21.4 parts of the

product from POCl3 and PhNH2 give 42 parts p-O2NC6H4CONHPh, m. 210-11°. BzOH 24.4 and PhMe 180 containing the product from BuNH2 (I) 36.5 and POCl3 13.8 give BzNHBu 19.9 parts, m. 41-2°; 45.5 parts cyclohexylamine instead of I gives BzNHC6H13, m. 145-9°; 24.6 parts 3-C5H4NCO2H gives nicotinanilide, m. 124-6°; CH2(CO2H)2 20.8 gives CH2(CONHPh)2 33 parts (65%), m. 226-7°; o-C6H4(CO2H)2 16.6 gives C6H4(CO)2NPh 16.3 parts (73%), m. 207°; m-C6H4(CO2H)2 similarly gives 82% m-C6H4(CONHPh)2, m. 279-81°.

IT **13111-32-5**, **Isophthalanilide**
(manufacture of)

RN 13111-32-5 CAPLUS

CN 1,3-Benzenedicarboxamide, N,N'-diphenyl- (9CI) (CA INDEX NAME)